



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

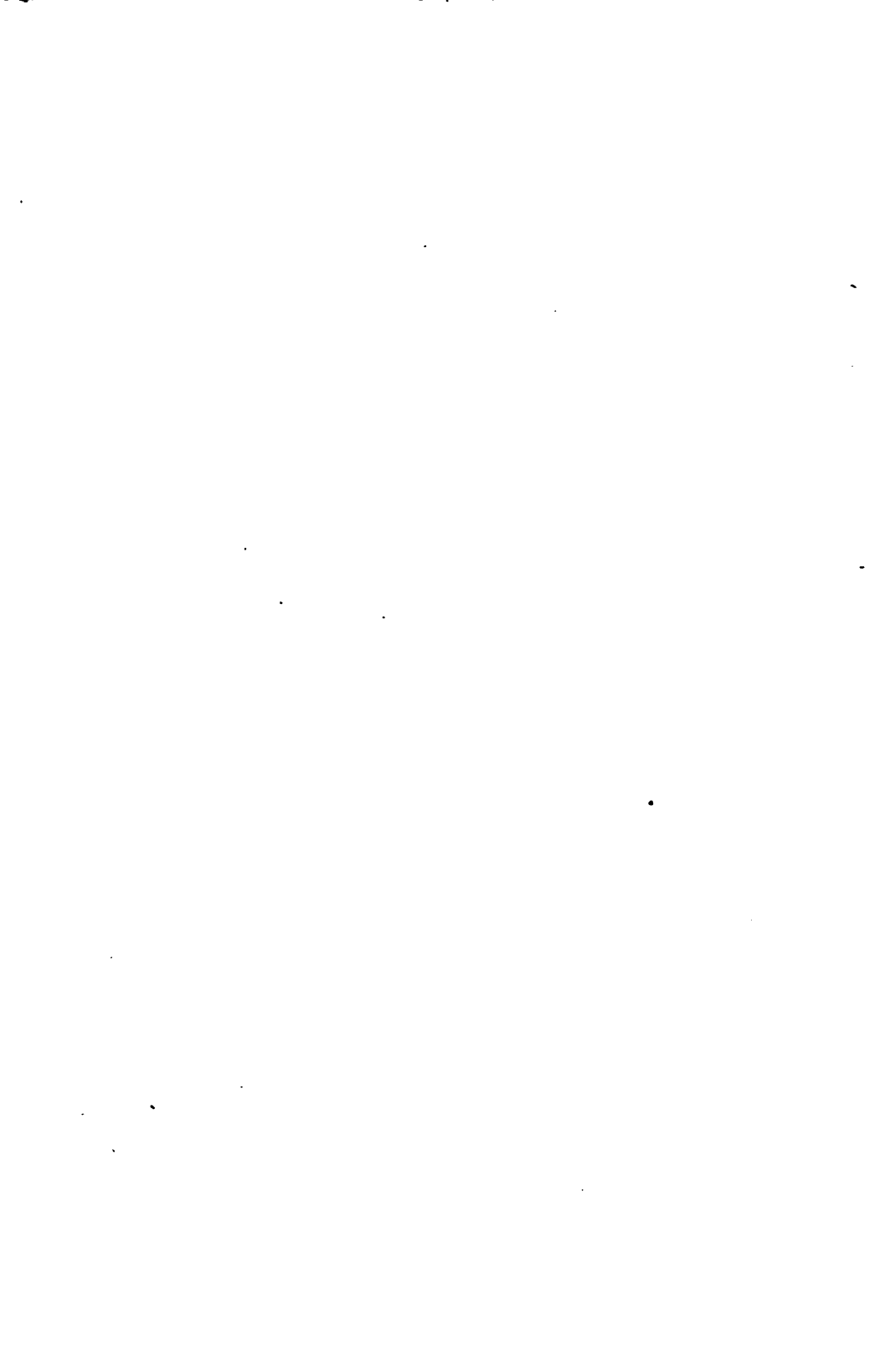
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

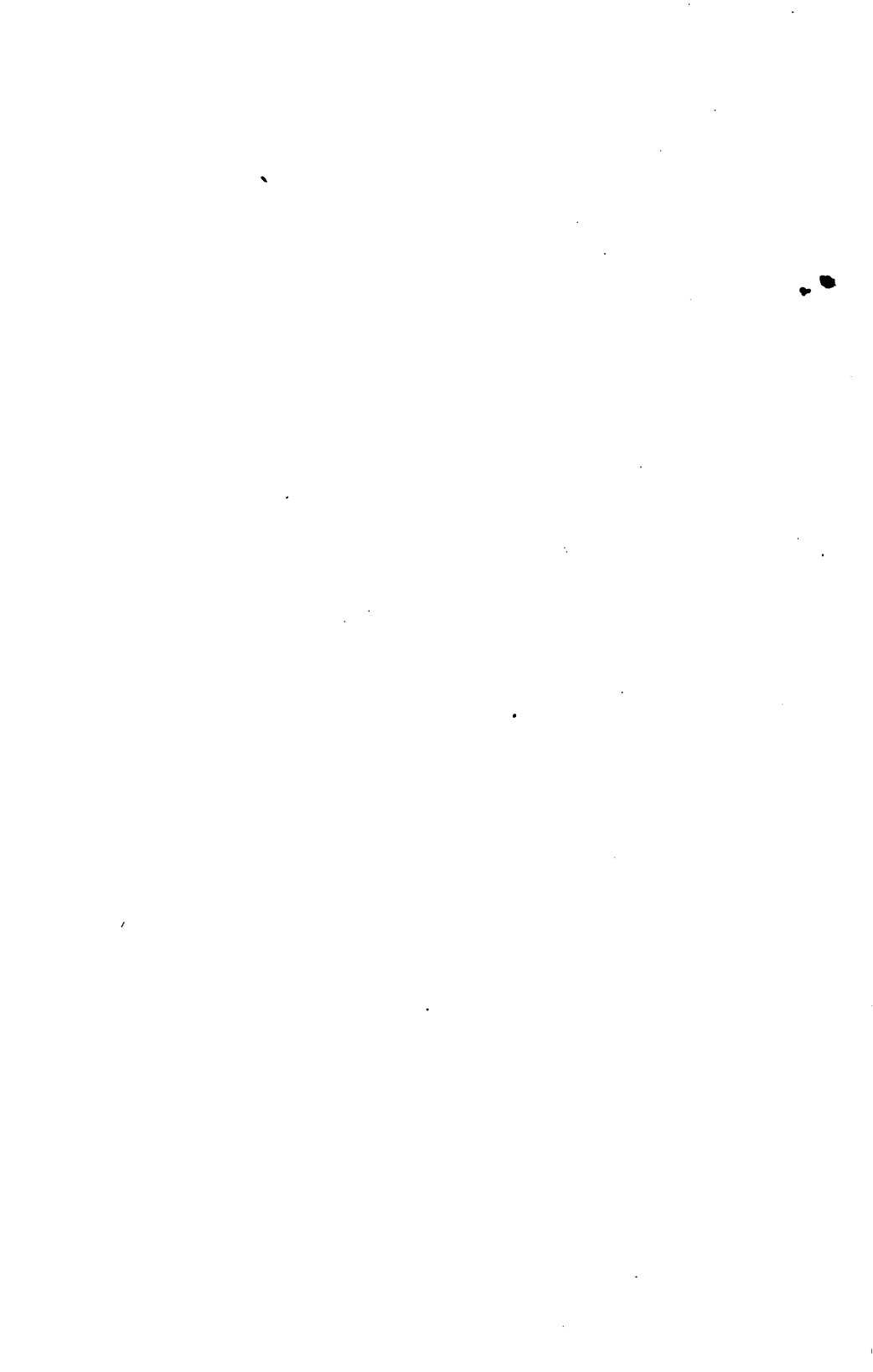
About Google Book Search

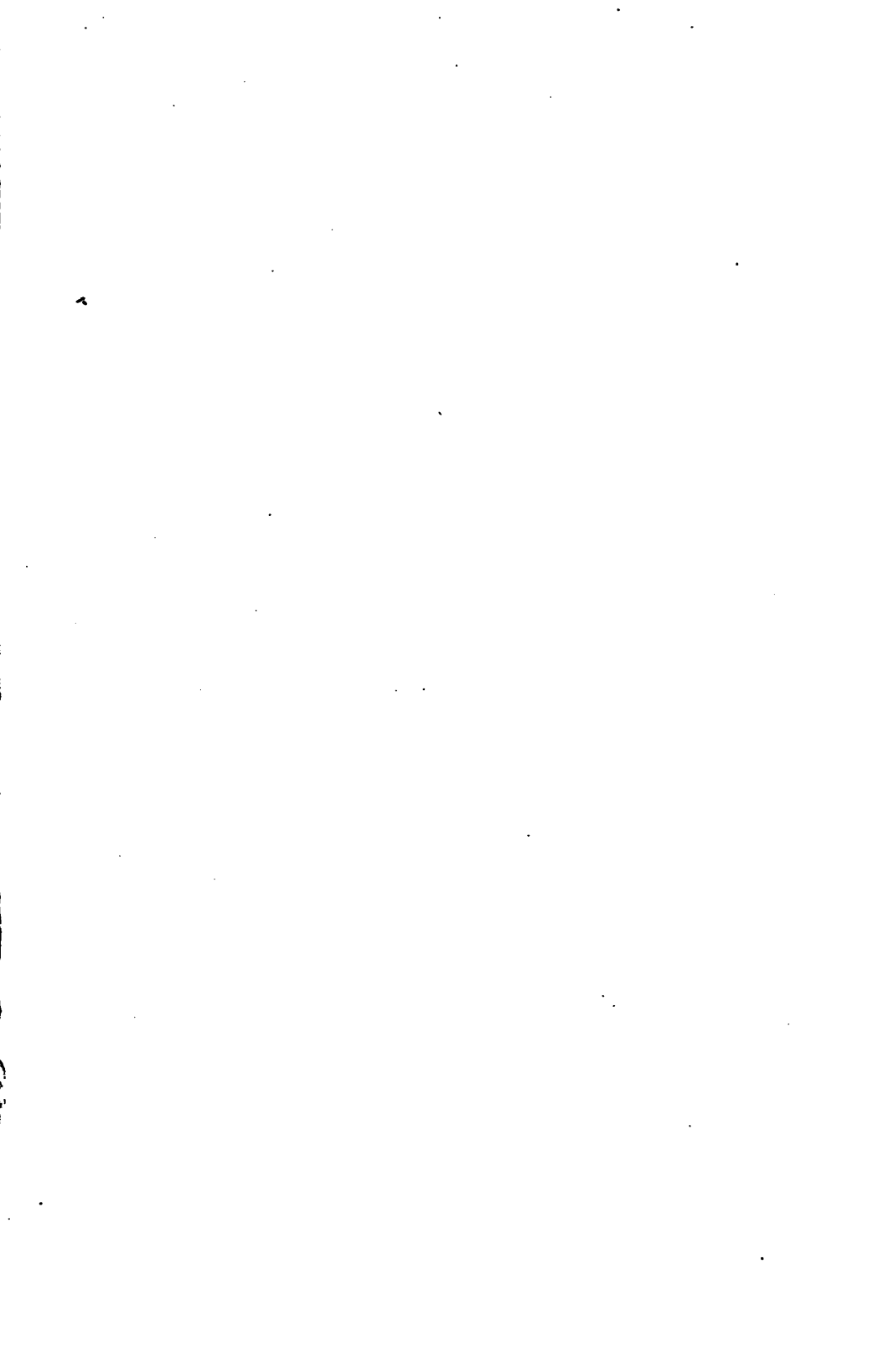
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

No.

BOSTON
MEDICAL LIBRARY,
19 BOYLSTON PLACE.





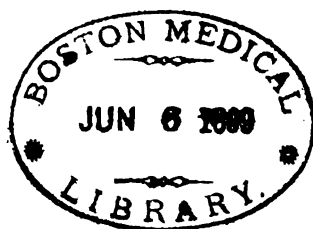




PROCEEDINGS
OF THE
American Medico-Psychological Association
AT THE
FIFTY-FOURTH ANNUAL MEETING
HELD IN
ST. LOUIS, MAY 10-13, 1898.



PUBLISHED BY
AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION,
1898.



OFFICERS OF
AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION,
FOR 1897-98.

COUNCIL.

PRESIDENT,	.	.	.	.	R. M. BUCKE, M. D.
VICE-PRESIDENT,	.	.	.	.	HENRY M. HURD, M. D.
SECRETARY AND TREASURER,	.	.	.	.	C. B. BURR, M. D.
AUDITORS,	.	.	.	.	{ P. L. MURPHY, M. D. S. B. LYON, M. D.

COUNCILORS FOR THREE YEARS.

J. T. SEARCY, M. D.	F. C. HOYT, M. D.
T. J. W. BURGESS, M. D.	H. C. EYMAN, M. D.

COUNCILORS FOR TWO YEARS.

EDWARD COWLES, M. D.	G. ALDER BLUMER, M. D.
WILLIAM M. EDWARDS, M. D.	JOS. G. ROGERS, M. D.

COUNCILORS FOR ONE YEAR.

WALTER CHANNING, M. D.	C. E. WOODSON, M. D.
GEORGE H. BOHÉ, M. D.	HENRY P. STEARNS, M. D.

OFFICERS OF
AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION,
FOR 1898-'99.

COUNCIL.

PRESIDENT, ...	HENRY M. HURD, M. D.
VICE-PRESIDENT, ...	H. A. GILMAN, M. D.*
SECRETARY AND TREASURER, ...	C. B. BURR, M. D.
AUDITORS, ...	{ H. A. TOBEY, M. D. C. G. HILL, M. D.

COUNCILORS FOR THREE YEARS.

J. W. BABCOCK, M. D.	J. PERCY WADE, M. D.
C. W. PAGE, M. D.	L. C. MEAD, M. D.

COUNCILORS FOR TWO YEARS.

J. T. SEARCY, M. D.	F. C. HOYT, M. D.
T. J. W. BURGESS, M. D.	H. C. EYMAN, M. D.

COUNCILORS FOR ONE YEAR.

EDWARD COWLES, M. D.	G. ALDER BLUMER, M. D.
WILLIAM M. EDWARDS, M. D.	JOS. G. ROGERS, M. D.

* Died October. 1898.

TABLE OF CONTENTS.

	PAGE.
List of Officers, 1897-8.....	iii
List of Officers, 1898-9.....	v
List of Members.....	9
Geographical Distribution of Members and Institutions.....	23
Honorary Members.....	38
Constitution.....	39
By-Laws.....	44
Note.....	45
Proceedings of the Fifty-fourth Annual Meeting.....	47
Members and Visitors Present.....	50
Report on "The Improvement in the Medical Service of Prisons".....	57
Report on Journal of Insanity.....	60
Presentation to Dr. Dewey.....	62
Financial Statement.....	69
Presidential Address. Surgery Among the Insane in Canada. By R. M. BUCKE, M. D.....	71
Annual Address. The Mutual Relations of the Alienist and Neurologist in the Study of Psychiatry and Neurology. By J. T. ESKRIDGE, M. D.....	89
Insanity Defined on the Basis of Disease. By C. H. HUGHES, M. D....	111
The Scientific Border-Line Between Sanity and Insanity. By EDWARD C. RUNGE, M. D.....	115
Discussion.....	125
The Hospital Library. By HENRY M. BANNISTER, M. D.....	136
Discussion.....	142
The Judicious Training of Neurotic Children an Aid to the Prevention of Insanity. By DANIEL R. BROWER, M. D.....	143
A Study of the Natural History of the Clinical Manifestations and Patho- logical Changes in Disease of the Lungs Among the Insane. By H. A. TOMLINSON, M. D.....	147
Discussion.....	163
Does the Loco-Weed Produce Insanity? By CHARLES W. PILGRIM, M. D.....	167
Thyroid in Insanity. By B. W. STONE, M. D.....	174
Discussion.....	179
Subconscious Homicide and Suicide: Their Physiological Psychology. By CHARLES P. BANCROFT, M. D.....	186
Insanity and Homicide. By H. E. ALLISON, M. D.....	197
Discussion of the two preceding Papers.....	209

Some Remarks on Insanity Following Surgical Operations, with Report of Forty-six Cases. By RICHARD DEWEY, M. D	233
Discussion	234
Asylum Versus Hospital. By JAMES RUSSELL, M. D.....	239
Some New Hospital Buildings. By WM. M. EDWARDS, M. D.....	254
State Care Versus County Care for the Insane. By BARNARD D. EASTMAN, M. D.....	263
Better Care for the Chronic Insane. By H. A. GILMAN, M. D	274
The Wisconsin County Care System. By W. B. LYMAN, M. D.....	280
Occupation in the Treatment of the Insane. By FRANK CRAMPTON HOYT, M. D.....	288
Discussion of Papers by Drs. RUSSELL, EDWARDS, EASTMAN, GILMAN and LYMAN	293
Value of Hospital Records. By WILLIAM MABON, M. D.....	315
Discussion	324
Practical Methods in Physiological Chemistry. By RICHARD H. HUTCHINGS, M. D.....	327
Discussion	336
California and the Insane. By A. M. GARDNER, M. D.....	341
Some Forms of Syphilitic Insanity Resembling General Paresis. By C. R. WOODSON, M. D.....	351
Discussion	353
The Lesson Taught by a Few Hard Cases. By WILLIAM ELLIOTT DOLD, M. D.....	357
Incipient Melancholia: Its Diagnosis, Prognosis and Treatment. By JOHN PUNTON, M. D.....	373
Nerve-Cell Changes in Somatic Diseases. By AUG. HOCH, M. D.....	384

MEMORIAL NOTICES.

Wm. Palmer Jones, M. D. By JOHN A. BEAUCHAMP, M. D.....	394
James Olmstead, M. D. By HENRY S. NOBLE, M. D.....	401
H. A. Buttolph, M. D.....	404
George Allen, M. D. By SELDEN H. TALCOTT, M. D.....	407
R. H. Moffitt, M. D. By H. A. GILMAN, M. D.....	410
Hugh F. McNary, M. D.....	411
Julia K. Cary, M. D. By CHARLES W. PAGE, M. D.....	414

Additions and Changes to March 1, 1899.

- Brown, Sanger, 100 State street, Chicago.
Bryant, Percy, Medical Superintendent, etc.
Campbell, Merritt B., Medical Superintendent Southern California State Hospital, Patton, California.
Colby, F. B., Assistant, etc., Mattapan, Massachusetts.
Crumbaker, W. P., (formerly, etc.), Athens, Ohio.
Dolan, A. Stanley, Assistant, etc., Patton, California.
Drew, Chas. A., Medical Director Asylum for Insane Oriminals, State Farm, Massachusetts.
Gilman, H. A., deceased.
Hallock, Winthrop B., deceased.
Hamilton, J. B., deceased.
Hay, J. T., resigned.
Holmes, Chas. M., deceased.
Hoyt, Frank C., Medical Superintendent Iowa Hospital for the Insane, Mt. Pleasant, Iowa.
Kenlston, J. M., (not Kennlston.)
Moncure, James D., deceased.
Peterson, Frederick, 4 West Fiftieth street, New York.
Pratt, Foster, deceased.
Rohé, Geo. H., deceased.
Rosser, Charles M., resigned.
Semple, John M., resigned.
Sinclair, George L., formerly Medical Superintendent, etc.
Stearns, William G., formerly Medical Superintendent, etc.
Stedman, Henry R., South street, Brookline, Massachusetts.
Sylvester, W. E., resigned.
Ward, John W., Medical Director, etc.
Waughop, John W., Honolulu, Hawaii, resigned.
Wegge, W. F., resigned.
Wilson, R. S., Gainesville Texas.
Witte, M. E., Medical Superintendent Iowa Hospital for the Insane, Olarinda, Iowa.
Stockton State Hospital, California.
Agnews State Hospital, California.
Mendocino State Hospital, California.
Boston Insane Hospital, Massachusetts.
Worcester Insane Hospital, Massachusetts.
Danvers Insane Hospital, Massachusetts.
Taunton Insane Hospital, Massachusetts.
Northampton Insane Hospital, Massachusetts.
State Hospital, Raleigh, N. C.
State Hospital, Goldsboro, N. C.

LIST OF MEMBERS.

- Adams, Geo. S., M. D., Medical Superintendent Westborough Insane Hospital, Westborough, Mass.
- Allen, Henry D., M. D., Milledgeville, Ga.
- Allison, Henry E., M. D., Medical Superintendent Matteawan State Hospital, Fishkill Landing, N. Y.
- Applegate, Chas. F., M. D., Assistant Physician Iowa Hospital for the Insane, Clarinda, Ia.
- Atwood, Charles E., M. D., Assistant Physician Bloomingdale Asylum, White Plains, N. Y. (*Associate Member.*)
- Babcock, J. W., M. D., Medical Superintendent State Hospital for the Insane, Columbia, S. C.
- Babcock, Warren L., M. D., Assistant Physician St. Lawrence State Hospital, Ogdensburg, N. Y. (*Associate Member.*)
- Baker, Lucius W., M. D., Riverview, Baldwinsville, Mass.
- Bancroft, Charles P., M. D., Medical Superintendent New Hampshire Asylum for the Insane, Concord, N. H.
- Baldwin, Henry C., M. D., 126 Commonwealth Ave., Boston, Mass.
- Ballantine, Eveline P., M. D., Assistant Physician Rochester State Hospital, Rochester, N. Y. (*Associate Member.*)
- Bamford, Thomas E., M. D., Assistant Physician Hudson River State Hospital, Poughkeepsie, N. Y. (*Associate Member.*)
- Bannister, Henry M., M. D., (formerly Assistant Physician Illinois Eastern Hospital for the Insane), 828 Judson Ave., Evanston, Ill.
- Barrett, Albert M., M. D., Assistant Physician Iowa Hospital for the Insane, Independence, Ia. (*Associate Member.*)
- Bartlett, Cyrus K., M. D., (formerly Medical Superintendent St. Peter State Hospital), Minneapolis, Minn.
- Beauchamp, John A., M. D., Medical Superintendent Central Hospital for the Insane, Nashville, Tenn. (*Associate Member.*)
- Beemer, Nelson H., M. D., Superintendent Mimico Asylum for the Insane, Toronto, Ont.
- Bemis, Merrick, M. D., (formerly Superintendent Worcester Lunatic Hospital), Herbert Hall, Worcester, Mass.
- Bennett, Alice, M. D., (formerly Resident Physician Female Department Norristown State Hospital), Wrentham, Mass.
- Berkley, Henry J., M. D., Attending Physician City Insane Asylum, Baltimore, Md.

- Biddle, T. C., M. D., Osawatomie, Kans.
- Blackburn, I. W., M. D., Special Pathologist Government Hospital for the Insane, Washington, D. C. (*Associate Member.*)
- Blackford, Benjamin, M. D., Medical Superintendent Western State Hospital, Staunton, Va.
- Blumer, G. Alder, M. D., Medical Superintendent Utica State Hospital, Utica, N. Y.
- Bondurant, Eugene D., M. D., (formerly Assistant Superintendent Alabama Bryce Insane Hospital), 57 St. Joseph St., Mobile, Ala.
- Boody, George, M. D., Assistant Physician Iowa Hospital for the Insane, Independence, Ia. (*Associate Member.*)
- Bourque, E. J., M. D., Asile de St. Jean de Dieu, Longue-Pointe, Montreal, Que.
- Bradfield, George Milton, M. D., Assistant Physician Philadelphia Hospital, Male Department, Philadelphia, Pa. (*Associate Member.*)
- Brower, D. R., M. D., (formerly Medical Superintendent Eastern State Hospital, Williamsburg, Va.), 84 and 86 Washington St., Chicago, Ill.
- Brown, John P., M. D., Medical Superintendent Taunton Lunatic Hospital, Taunton, Mass.
- Brown, John R., M. D., Indianapolis, Ind.
- Brown, Sanger, M. D., Chicago, Ill.
- Brush, Edward N., M. D., Physician-in-Chief and Superintendent Sheppard and Enoch Pratt Hospital, Towson, Md.
- Bryant, Percy, M. D., Superintendent Male Department Manhattan State Hospital, Ward's Island, N. Y.
- Buchan, H. E., M. D., Assistant Superintendent Asylum for the Insane, London, Ont. (*Associate Member.*)
- Buchanan, J. M., M. D., Medical Superintendent East Mississippi Insane Asylum, Meridian, Miss.
- Bucke, Richard M., M. D., Medical Superintendent Asylum for the Insane, London, Ont. (*President, 1898.*)
- Buckley, James M., D. D., LL. D., Morristown, N. J. (*Honorary Member.*)
- Burrell, Dwight R., M. D., Resident Physician Brigham Hall, Canandaigua N. Y.
- Burgess, T. J. W., M. D., Medical Superintendent Protestant Hospital for the Insane, Montreal, Que.
- Burnet, Anne, M. D., Assistant Physician Iowa Hospital for the Insane, Clarinda, Ia.
- Burr, C. B., M. D., Medical Director Oak Grove Hospital, Flint, Mich. (*Secretary.*)
- Campbell, Merritt B., M. D., Medical Superintendent Southern California State Hospital, San Bernardino, Cal.
- Campbell, Michael, M. D., Medical Superintendent Eastern Hospital for the Insane, Knoxville, Tenn.
- Carriel, Henry F., M. D., (formerly Medical Superintendent Illinois Central Hospital for the Insane), Jacksonville, Ill.
- Chaddock, Charles G., M. D., 511 North Garrison Ave., St. Louis, Mo.

- Chagnon, E. Philippe, M. D., Longue-Pointe, Quebec. (*Associate Member.*)
- Channing, Walter, M. D., Private Hospital for Mental Diseases, Brookline, Mass.
- Chapin, John B., M. D., Physician and Superintendent Pennsylvania Hospital for the Insane, Philadelphia, Pa.
- Chase, Robert H., M. D., Medical Superintendent Friends' Asylum, Frankford, Pa.
- Cheatham, Wm. A., M. D., (formerly Superintendent Central Hospital for the Insane), Nashville, Tenn.
- Chilgren, G. A., M. D., Assistant Superintendent South Dakota Hospital for the Insane, Yankton, S. D.
- Christian, Edmund A., M. D., Medical Superintendent Eastern Michigan Asylum, Pontiac, Mich.
- Clarke, Charles K., M. D., Medical Superintendent Rockwood Hospital for the Insane, Kingston, Ont.
- Clark, Daniel, M. D., Medical Superintendent Asylum for the Insane, Toronto, Ont.
- Clark, Joseph C., M. D., Assistant Physician Maryland Hospital for the Insane, Catonsville, Md. (*Associate Member.*)
- Clarke, Frank H., M. D., (formerly Medical Superintendent Eastern Kentucky Lunatic Asylum), Lexington Ky.
- Clouston, Thos. S., M. D., F. R. C. P., F. R. S. E., Physician Superintendent Royal Asylum, Morningside, Edinburgh, Scotland. (*Honorary Member.*)
- Coe, Henry W., M. D., Portland, Ore.
- Colby, Fred Bennett, M. D., Assistant Physician Boston Insane Hospital, Roslindale, Mass. (*Associate Member.*)
- Cook, George F., M. D., Oxford Retreat, Oxford, Ohio.
- Cook, R. Harvey, M. D., Assistant Physician Oxford Retreat, Oxford, Ohio. (*Associate Member.*)
- Copp, Owen, M. D., Superintendent Massachusetts Hospital for Epileptics, Palmer, Mass.
- Courtney, J. Elvin, M. D., Assistant Physician Hudson River State Hospital, Poughkeepsie, N. Y.
- Cowles, Edward, M. D., Medical Superintendent McLean Hospital, Waverley, Mass. (*President, 1895.*)
- Crandall, Geo. C., M. D., 511 North Garrison Ave., St. Louis, Mo.
- Crumbacker, W. P., M. D., (formerly Medical Superintendent West Virginia Hospital for the Insane), Cambridge, Ohio.
- Curwen, John, M. D., Medical Superintendent State Hospital for the Insane, Warren, Pa. (*President, 1894.*)
- Dameron, Robert, M. D., Medical Superintendent Hospital for the Chronic Insane, Hastings, Neb.
- Daniels, Frederick H., M. D., Bellevue Place, Batavia, Ill. (*Associate Member.*)
- Dent, E. C., M. D., Medical Superintendent Female Department Manhattan State Hospital, Ward's Island, N. Y.
- Dewey, Richard, M. D., (formerly Medical Superintendent Illinois Eastern Hospital for the Insane), Physician-in-Charge Milwaukee Sanitarium, Wauwatosa, Wis. (*President, 1896.*)

- Dewing, Oliver M., M. D., Medical Superintendent Long Island State Hospital, King's Park, N. Y.
- Dodds, Samuel, M. D., Assistant Physician Illinois Southern Hospital, Anna, Ill. (*Associate Member.*)
- Dodge, Robert H., M. D., Matley Hill Sanitarium, St. Denis, Md.
- Dolan, A. Stanley, M. D., Assistant Medical Superintendent Southern California State Hospital, San Bernardino, Cal.
- Doolittle, John C., M. D., Assistant Physician Iowa Hospital for the Insane, Independence, Ia. (*Associate Member.*)
- Douglass, John P., M. D., Medical Superintendent Western Hospital for the Insane, Bolivar, Tenn.
- Dozier, L. F., M. D., Assistant Physician Napa State Hospital for the Insane, Napa, Cal. (*Associate Member.*)
- Drew, Chas. A., M. D., Assistant Physician Medfield Insane Asylum, Medfield, Mass. (*Associate Member.*)
- Drewry, W. F., M. D., Medical Superintendent Central State Hospital, Petersburg, Va.
- Dunton, Wm. Rush, Jr., M. D., Assistant Physician Sheppard and Enoch Pratt Hospital, Towson, Md. (*Associate Member.*)
- Eastman, B. D., M. D., (formerly Superintendent Kansas State Insane Asylum), 829 Kansas Ave., Topeka, Kans.
- Eastman, Charles C., M. D., Assistant Physician Binghamton State Hospital, Binghamton, N. Y. (*Associate Member.*)
- Edenharter, Geo. F., M. D., Medical Superintendent Central Indiana Hospital for the Insane, Indianapolis, Ind.
- Edgerly, J. Frank, M. D., Superintendent Pennsylvania Epileptic Hospital and Colony Farm, Oakbourne, Pa.
- Edwards, John B., M. D., (formerly Medical Superintendent Wisconsin State Hospital), Mauston, Wis.
- Edwards, William M., M. D., Medical Superintendent Michigan Asylum for the Insane, Kalamazoo, Mich.
- Elliott, Robert M., M. D., Medical Superintendent Brooklyn Department of Long Island State Hospital, Brooklyn, N. Y.
- Emerson, Justin E., M. D., Attending Physician St. Joseph's Retreat, 128 Henry St., Detroit, Mich.
- Esckridge, J. T., M. D., Denver, Colo.
- Evans, B. D., M. D., Medical Director New Jersey State Hospital, Morris Plains, N. J.
- Evans, Silas, M. D., High Oaks Sanitarium, Lexington, Ky.
- Everts, Orpheus, M. D., Medical Superintendent Cincinnati Sanitarium, College Hill, Ohio.
- Ewing, W. Brown, M. D., (formerly Physician-in-Chief State Asylum for the Chronic Insane), 515 Penn Ave., Pittsburg, Pa.
- Eyman, H. C., M. D., Medical Superintendent Cleveland State Hospital, Cleveland, Ohio.
- Felty, John C., M. D., Assistant Physician Hospital for the Insane, Trenton, N. J. (*Associate Member.*)

- Fernald, Walter E., M. D., Superintendent Massachusetts School for the Feeble-Minded, Waverley, Mass.
- Fisher, Theodore W., M. D., (formerly Medical Superintendent Boston Lunatic Hospital), Boston, Mass.
- Fisher, William E., M. D., Assistant Physician Connecticut Hospital for the Insane, Middletown, Conn. (*Associate Member.*)
- Fitz Gerald, John F., M. D., Medical Superintendent State Custodial Asylum, Rome, N. Y.
- Folkland, Madeline, M. D., Assistant Physician Iowa Hospital for the Insane, Mt. Pleasant, Ia. (*Associate Member.*)
- Folsom, Charles F., M. D., 15 Marlboro St., Boston, Mass. (*Honorary Member.*)
- Franklin, Charles M., M. D., Assistant Physician Sheppard and Enoch Pratt Hospital, Towson, Md. (*Associate Member.*)
- French, Edward, M. D., Superintendent Medfield Insane Asylum, Medfield Mass.
- Gardner, A. M., M. D., Medical Superintendent Napa State Hospital, Napa, Cal.
- Gilman, H. A., M. D., Medical Superintendent Iowa Hospital for the Insane, Mt. Pleasant, Ia.
- Givens, A. J., M. D., Stamford Hall, Stamford, Conn.
- Givens, Jno. W., M. D., Medical Superintendent Idaho Insane Asylum, Blackfoot, Idaho.
- Godding, W. W., M. D., Medical Superintendent Government Hospital for the Insane, Washington, D. C.
- Gordon, W. A., M. D., Medical Superintendent Northern Hospital for the Insane, Winnebago, Wis.
- Gorton, Elliot, M. D., Assistant Physician State Hospital, Morris Plains, N. J.
- Gorton, William A., M. D., Superintendent and Physician Butler Hospital for the Insane, Providence, R. I.
- Goss, Arthur V., M. D., Assistant Physician Taunton Lunatic Hospital, Taunton, Mass. (*Associate Member.*)
- Granger, Wm. D., M. D., Vernon House, Bronxville, N. Y.
- Gray, Landon C., M. D., 6 East 49th Street, New York.
- Gundry, Richard F., M. D., Richard Gundry Home, Catonsville, Md.
- Gurley, R. R., M. D., Assistant Physician Worcester Lunatic Hospital, Worcester, Mass. (*Associate Member.*)
- Guth, Morris S., M. D., Assistant Physician State Hospital for the Insane, Warren, Pa.
- Hall, G. Stanley, Ph. D., LL. D., President Clark University, Worcester, Mass. (*Honorary Member.*)
- Hall, Henry C., M. D., Assistant Physician Butler Hospital, Providence, R. I. (*Associate Member.*)
- Hallock, Winthrop B., M. D., Cromwell Hall, Cromwell, Conn.
- Hamilton, J. B., M. D., Superintendent Illinois Northern Hospital for the Insane, Elgin, Chicago, Ill.
- Hancker, W. H., M. D., Medical Superintendent Delaware State Hospital, Farnhurst, Del.

- Harmon, F. W., M. D., Medical Superintendent Longview Hospital, Carthage, Ohio.
- Harrington, Arthur H., M. D., Medical Superintendent Danvers Lunatic Hospital, Danvers, Mass.
- Harrison, Daniel A., M. D., Breezehurst Terrace, Whitestone, L. I.
- Hay, J. T., M. D., (formerly Medical Superintendent Nebraska Hospital for the Insane), 1415 N. St., Lincoln, Neb.
- Heyman, Marcus B., M. D., Assistant Physician Manhattan State Hospital, Central Islip, L. I., N. Y.
- Hildreth, J. L., M. D., Member Board of Lunacy and Charity of Massachusetts, Cambridge, Mass.
- Hill, Charles G., M. D., Attending Physician Mt. Hope Retreat, Baltimore, Md.
- Hill, Gershom H., M. D., Medical Superintendent Iowa Hospital for the Insane, Independence, Ia.
- Hill, Horace B., M. D., Assistant Medical Superintendent Maine Insane Hospital, Augusta, Me. (*Associate Member*)
- Hills, Frederick L., M. D., Assistant Physician New Hampshire State Asylum, Concord, N. H. (*Associate Member*.)
- Hinckley, L. S., M. D., Medical Superintendent Essex County Hospital, Newark, N. J.
- Hoch, Aug., M. D., Assistant Physician and Pathologist McLean Hospital, Waverley, Mass. (*Associate Member*.)
- Holmes, Chas. M., M. D., Assistant Physician Northampton Lunatic Hospital, Northampton, Mass. (*Associate Member*.)
- Hooper, P. O., M. D., Superintendent State Lunatic Asylum, Little Rock, Ark.
- Houston, John A., M. D., Medical Superintendent Northampton Lunatic Hospital, Northampton, Mass. (*Associate Member*.)
- Howard, A. B., M. D., Fair Oaks, Cuyahoga Falls, Ohio. (*Associate Member*.)
- Howard, Eugene H., M. D., Medical Superintendent Rochester State Hospital, Rochester, N. Y.
- Howard, Herbert B., M. D., Massachusetts General Hospital, Boston, Mass.
- Hoyt, Frank C., M. D., Medical Superintendent Iowa Hospital for the Insane, Clarinda, Ia.
- Hughes, Charles H., M. D., (formerly Medical Superintendent State Lunatic Asylum No. 1, Fulton). (*Editor of Alienist and Neurologist*.) St. Louis, Mo.
- Hughes, D. E., M. D., Chief Resident Physician Philadelphia Hospital, Philadelphia, Pa.
- Hurd, Arthur W., M. D., Superintendent Buffalo State Hospital, Buffalo, N. Y.
- Hurd, Henry M., M. D., (formerly Medical Superintendent Eastern Michigan Asylum), Baltimore, Md. (*President-Elect*.)
- Hutchings, Richard H., M. D., Assistant Physician St. Lawrence State Hospital, Ogdensburg N. Y. (*Associate Member*.)
- Hutchinson, Henry A., M. D., Medical Superintendent Western Pennsylvania Hospital for the Insane, Dixmont, Pa.

- Hutchinson, Marcello, M. D., Medical Superintendent Asylum for Dipso-
maniacs and Inebriates, Foxboro, Mass.
- Jackman, Frederick O., M. D., Bloomington, Ill.
- Jacobs, Henry B., M. D., Baltimore, Md.
- Jelly, George F., M. D., (formerly Medical Superintendent McLean Hospi-
tal), 69 Newbury St., Boston, Mass.
- Josselyn, Eli E., M. D., Assistant Physician Pennsylvania Hospital for the
Insane, Philadelphia, Pa. (*Associate Member.*)
- Keene, George F., M. D., Medical Superintendent State Hospital for the
Insane, Cranston (Howard P. O.), R. I.
- Kelper, George F., M. D., Medical Superintendent Norfolk Hospital for the
Insane, Norfolk, Neb.
- Kellogg, Theo. H., M. D., (formerly Medical Superintendent Willard State
Hospital), cor. Riverdale Lane and Albany Post-road, Riverdale, New
York, N. Y.
- Kenniston, James M., M. D., Assistant Physician Connecticut Hospital for
the Insane, Middletown, Conn. (*Associate Member.*)
- Kilbourne, Arthur F., M. D., Medical Superintendent Rochester State Hos-
pital, Rochester, Minn.
- Kindred, J. J., M. D., River Crest, Astoria, Long Island, N. Y.
- Kinney, C. Spencer, M. D., Assistant Physician State Homeopathic Hospital,
Middletown, N. Y. (*Associate Member.*)
- Kirkpatrick, Paul W., M. D., Assistant Physician Central Hospital for the
Insane, Nashville, Tenn.
- Kirby, George L., M. D., Medical Superintendent North Carolina Insane
Asylum, Raleigh, N. C.
- Knowlton, W. M., M. D., Assistant Physician Private Hospital for Mental
Diseases, Brookline, Mass. (*Associate Member.*)
- Kulp, John H., M. D., Superintendent Insane Department Mercy Hospital,
Davenport, Ia.
- Lane, Edward B., M. D., Superintendent Boston Lunatic Hospital, Austin
Farm, Mass.
- Langdon, Chas. H., M. D., Assistant Physician Hudson River State Hospital,
Poughkeepsie, N. Y. (*Associate Member.*)
- Latimer, Chas. H., M. D., Assistant Physician Government Hospital for the
Insane, Washington, D. C. (*Associate Member.*)
- Lawton, Shaller E., M. D., Medical Superintendent Brattleboro Retreat,
Brattleboro, Vt.
- Lightle, William E., M. D., Assistant Physician New Hampshire State Asy-
lum, Concord, N. H. (*Associate Member.*)
- Lomax, Joseph D., M. D., Marshall Infirmary, Troy, N. Y.
- Long, Oscar R., M. D., Medical Superintendent Asylum for Dangerous and
Criminal Insane, Ionia, Mich.
- Lyman, William B., M. D., Superintendent State Hospital for the Insane,
Mendota, Wis.
- Lyon, Samuel B., M. D., Medical Superintendent Bloomingdale Asylum,
White Plains, N. Y.

- Mabon, William, M. D., Superintendent St. Lawrence State Hospital, Ogdensburg, N. Y.
- McBride, James H., M. D., (formerly Medical Superintendent Milwaukee Sanitarium for Nervous Diseases), Wauwatosa, Wis.
- Macdonald, Alexander E., M. D., General Superintendent Manhattan State Hospital, Ward's Island, N. Y.
- MacDonald, Carlos F., M. D., Physician in Charge Dr. MacDonald's House, Pleasantville, Westchester Co., N. Y., and 85 Madison Avenue, New York.
- MacGugan, Arthur, M. D., Assistant Physician Michigan Asylum for the Insane, Kalamazoo, Mich. (*Associate Member.*)
- McNamara, Andrew J., M. D., Assistant Physician Cleveland State Hospital, Cleveland, Ohio. (*Associate Member.*)
- Macy, William Austin, M. D., Medical Superintendent Willard State Hospital, Willard, N. Y.
- Mallon, Peter S., M. D., Assistant Physician New Jersey State Hospital, Morris Plains, N. J. (*Associate Member.*)
- Mann, Frederick J., M. D., Assistant Physician Hudson River State Hospital, Poughkeepsie, N. Y. (*Associate Member.*)
- Mayberry, Chas. B., M. D., Assistant Physician State Hospital for the Insane, Danville, Pa.
- Mead, Leonard C., M. D., Medical Superintendent South Dakota Hospital for the Insane, Yankton, S. D.
- Meredith, Hugh B., M. D., Medical Superintendent State Hospital for the Insane, Danville, Pa.
- Meyer, Adolf, M. D., Pathologist Worcester Lunatic Hospital, Worcester, Mass.
- Miller, John F., M. D., Medical Superintendent Eastern State Hospital, Goldsboro, N. C.
- Mills, Charles K., M. D., Professor of Mental Diseases and Medical Jurisprudence University of Pennsylvania, 1909 Chestnut St., Philadelphia, Pa.
- Mink, Arthur E., M. D., St. Louis, Mo.
- Mitchell, S. Weir, M. D., Philadelphia, Pa. (*Honorary Member.*)
- Mitchell, Thomas J., M. D., Medical Superintendent Mississippi State Lunatic Asylum, Jackson, Miss.
- Moncure, James D., M. D., Medical Superintendent Eastern State Hospital, Williamsburg, Va.
- Morel, Jules, M. D., Mons, Belgium. (*Honorary Member.*)
- Morse, Jason, M. D., Assistant Superintendent Eastern Michigan Asylum, Pontiac, Mich. (*Associate Member.*)
- Mosher, J. Montgomery, M. D., 202 Lark St., Albany, N. Y.
- Motet, A., M. D., 161 Rue de Charonne, Paris, France. (*Honorary Member.*)
- Munson, James D., M. D., Medical Superintendent Northern Michigan Asylum, Traverse City, Mich.
- Moulton, A., R., M. D., Senior Assistant Physician Pennsylvania Hospital for the Insane, Philadelphia, Pa.
- Murphy, John B., M. D., Medical Superintendent Asylum for the Insane, Brockville, Ont.

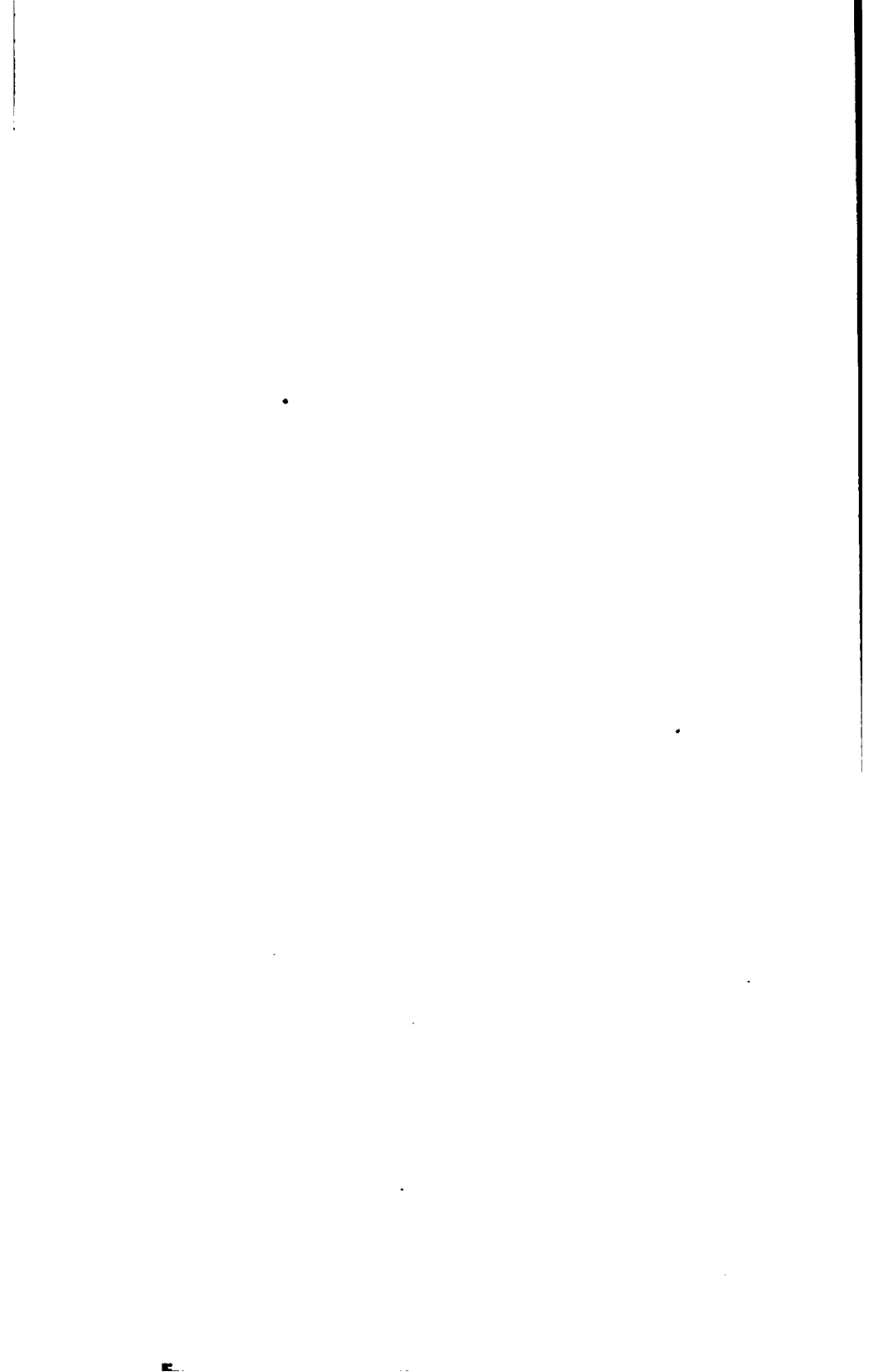
- Murphy, P. L., M. D., Medical Superintendent State Hospital, Morganton, N. C.
- Neff, Irwin H., M. D., Assistant Physician Eastern Michigan Asylum, Pontiac, Mich. (*Associate Member.*)
- Niles, Henry Roland, M. D., Assistant Physician Oak Grove Hospital, Flint, Mich. (*Associate Member.*)
- Nims, Edward B., M. D., (formerly Superintendent Northampton Lunatic Hospital), Northampton, Mass.
- Noble, Alfred I., M. D., Assistant Superintendent Worcester Lunatic Hospital, Worcester, Mass.
- Noble, Henry S., M. D., Assistant Superintendent Connecticut Hospital for the Insane, Middletown, Conn. (*Associate Member.*)
- Norris, Milton D., M. D., Assistant Physician Second Hospital for the Insane, Sykesville, Md.
- Northrop, Katharine, M. D., Women's Department Asylum for Chronic Insane, South Mountain, Wernersville, Pa. (*Associate Member.*)
- Noyes, William, M. D., Superintendent Boston Hospital, Mattapan, Mass.
- Numemaker, Henry B., M. D., Assistant Physician Pennsylvania Hospital for the Insane, Philadelphia, Pa. (*Associate Member.*)
- Orth, H. L., M. D., Medical Superintendent Pennsylvania State Lunatic Hospital, Harrisburg, Pa.
- Ostrander, Herman, M. D., Assistant Physician Michigan Asylum for the Insane, Kalamazoo, Mich. (*Associate Member.*)
- Page, Charles W., M. D., Medical Superintendent Connecticut Hospital for the Insane, Middletown, Conn.
- Page, H. W., M. D., Assistant Physician Worcester Insane Asylum, Worcester, Mass.
- Paine, N. Emmons, M. D., (formerly Medical Superintendent Westborough Insane Hospital), Newton Nervine, West Newton, Mass.
- Palmer, Harold L., M. D., Assistant Physician Utica State Hospital, Utica, N. Y. (*Associate Member.*)
- Parant, Victor, M. D., Toulouse, France, (*Honorary Member.*)
- Park, John G., M. D., (formerly Superintendent Worcester Lunatic Hospital), Groton, Mass.
- Parsons, Ralph L., M. D., (formerly Medical Superintendent New York City Asylum), Greenmont, near Sing Sing, N. Y.
- Pease, Caroline, M. D., Assistant Physician St. Lawrence State Hospital, Ogdensburg, N. Y. (*Associate Member.*)
- Peterson, Frederick, M. D., Instructor in Mental and Nervous Diseases, Columbia College, 60 W. 50th St., New York, N. Y.
- Pelphs, R. M., M. D., Assistant Superintendent Rochester State Hospital, Rochester, Minn.
- Pilgrim, Charles W., M. D., Medical Superintendent Hudson River State Hospital, Poughkeepsie, N. Y.
- Potter, Ezra B., M. D., Assistant Physician Rochester State Hospital, Rochester, N. Y.
- Powell, Theophilus O., M. D., Medical Superintendent State Lunatic Asylum, Milledgeville, Ga. (*President, 1897.*)

- Pratt, Foster, M. D., Kalamazoo, Mich. (*Honorary Member.*)
- Preston, R. J., M. D., Medical Superintendent Southwestern State Hospital, Marion, Va.
- Prieur, J. A., M. D., Asile de St. Jean de Dieu, Longue-Pointe, Que. (*Associate Member.*)
- Prout, Thomas P., M. D., Assistant Physician New Jersey State Hospital, Morris Plains, N. J. (*Associate Member.*)
- Punton, John, M. D., Kansas City, Mo.
- Putnam, Emma, M. D., Assistant Physician Hudson River State Hospital, Poughkeepsie, N. Y. (*Associate Member.*)
- Putnam, James J., M. D. 106 Marlboro St., Boston, Mass.
- Quinby, Hosea M., M. D., Medical Superintendent Worcester Lunatic Hospital, Worcester, Mass.
- Ratliff, J. M., M. D., Superintendent Dayton State Hospital, Dayton, Ohio.
- Regis, Emmanuel, M. D., Bordeaux, France. (*Honorary Member.*)
- Reynolds, Thomas W., M. D., Assistant Physician Asylum for the Insane, Hamilton, Ont. (*Associate Member.*)
- Richardson, A. B., M. D., Medical Superintendent Massillon State Hospital, Massillon, Ohio.
- Richardson, D. D., M. D., Resident Physician Male Department State Hospital for the Insane, Norristown, Pa.
- Richardson, Hubert, M. D., Pathologist Mt. Hope Retreat, Baltimore, Md. (*Associate Member.*)
- Roberts, Linnaeus A., M. D., Assistant Physician Boston Insane Hospital, Boston, Mass. (*Associate Member.*)
- Robinson, J. F., M. D., Medical Superintendent Asylum No. 3, Nevada, Mo.
- Rogers, Joseph G., M. D., Medical Superintendent Northern Indiana Hospital for the Insane, Longcliff, Logansport, Ind.
- Rohé, George H., M. D., Medical Superintendent Second Hospital for the Insane, Sykesville, Md.
- Rosser, Chas. M., M. D., (formerly Medical Superintendent North Texas Hospital for the Insane), Dallas, Texas.
- Row, W. D., M. D., (formerly Superintendent Second Hospital for the Insane), Parkersburg, W. Va.
- Rowe, G. H. M., M. D., Superintendent and Resident Physician City Hospital, Boston, Mass.
- Runge, Edward C., M. D., Superintendent City Asylum, St. Louis, Mo.
- Russell, James, M. D., Medical Superintendent Asylum for the Insane, Hamilton, Ont.
- Russell, William L., M. D., Assistant Physician Willard State Hospital, Willard, N. Y. (*Associate Member.*)
- Rutherford, James, M. D., Crichton Royal Institution, Dumfries, Scotland, (*Honorary Member.*)
- Sachs, B., M. D., 21 E. 65th St., New York, N. Y.
- Sanborn, Bigelow T., M. D., Medical Superintendent Maine Insane Hospital, Augusta, Me.
- Schmid, H. Ernst, M. D., White Plains, N. Y.

- Scribner, Ernest V., M. D., Medical Superintendent Worcester Insane Asylum, Worcester, Mass.
- Searcy, James T., M. D., Medical Superintendent Alabama Bryce Hospital, Tuscaloosa, Ala.
- Searl, William, M. D., (formerly Assistant Superintendent South Dakota Hospital), Cuyahoga Falls, Ohio.
- Sefton, Frederick, M. D., The Pines, Auburn, N. Y.
- Selling, L. M., M. D., Broadview, Agawam, Mass. (*Associate Member.*)
- Semelaigne, René, M. D., Medecin en Chef Maison de Sante Neuilly sur Seine, Paris, France. (*Honorary Member.*)
- Semple, John M., M. D., (formerly Medical Superintendent Eastern Washington Hospital for the Insane), Spokane, Wash.
- Simpson, J. C., M. D., Assistant Physician Government Hospital for the Insane, Washington, D. C. (*Associate Member.*)
- Sinclair, George L., M. D., Medical Superintendent Nova Scotia Hospital for the Insane, Halifax, N. S.
- Smith, Edwin Everett, M. D., (formerly Medical Director State Asylum for the Insane, Morris Plains, N. J.), Kensett, South Wilton, Conn.
- Smith, Geo. A., M. D., Medical Superintendent Manhattan State Hospital, Central Islip, Long Island, N. Y.
- Smith, Stephen, M. D., New York, N. Y. (*Honorary Member.*)
- Smith, S. E., M. D., Medical Superintendent Eastern Indiana Hospital for the Insane, Richmond, Ind.
- Somers, Elbert M., Jr., M. D., Assistant Physician St. Lawrence State Hospital, Ogdensburg, N. Y. (*Associate Member.*)
- Sprague, George P., M. D., Assistant Physician Danvers Lunatic Hospital, Danvers, Mass. (*Associate Member.*)
- Stack, M. J., M. D., Assistant Physician Government Hospital for the Insane, Washington, D. C. (*Associate Member.*)
- Stanley, Charles E., M. D., Assistant Physician Connecticut Hospital for the Insane, Middletown, Conn. (*Associate Member.*)
- Stathers, W. E., M. D., Superintendent West Virginia Hospital for the Insane, Weston, W. Va.
- Stearns, Henry P., M. D., Superintendent and Physician Retreat for the Insane, Hartford, Conn.
- Stearns, William G., M. D., Superintendent Illinois Eastern Hospital for the Insane, Hospital, Ill.
- Stedman, Henry R., M. D., Woodbourne, Roslindale, Boston, Mass.
- Stevens, Frank T., M. D., Assistant Physician Iowa Hospital for the Insane, Mt. Pleasant, Ia.
- Stewart, Nolan, M. D., Assistant Physician Mississippi State Lunatic Asylum, Jackson, Miss.
- Stone, Barton W., M. D., (formerly Medical Superintendent Western Kentucky Lunatic Asylum), Morningside, Nashville, Tenn.
- Stone, William A., M. D., Assistant Medical Superintendent Michigan Asylum for the Insane, Kalamazoo, Mich.
- Stranahan, J. O., M. D., Assistant Physician Hudson River State Hospital, Poughkeepsie, N. Y. (*Associate Member.*)

- Sylvester, W. E., M. D., (formerly General Superintendent Long Island State Hospital), Brooklyn, N. Y.
- Taylor, Isaac M., M. D., Assistant Physician State Hospital, Morganton, N. C.
- Tamburini, A., M. D., Reggio Emilia, Italy. (*Honorary Member.*)
- Taber, Susan J., M. D., Resident Physician Department for Women State Hospital for the Insane, Norristown, Pa.
- Talcott, Selden H., M. D., Medical Superintendent State Homeopathic Hospital, Middletown, N. Y.
- Thompson, J. L., M. D., Assistant Physician State Hospital for the Insane, Columbia, S. C. (*Associate Member.*)
- Thompson, Whitefield N., M. D., Assistant Physician Brattleboro Retreat, Brattleboro, Vt. (*Associate Member.*)
- Thombs, P. R., M. D., Medical Superintendent Colorado State Insane Asylum, Pueblo, Col.
- Tobey, Henry A., M. D., Medical Superintendent Toledo State Hospital, Toledo, Ohio.
- Tomlinson, H. A., M. D., Medical Superintendent St. Peter State Hospital, St. Peter, Minn.
- Tracy, Ira O., M. D., Assistant Physician Long Island State Hospital, Brooklyn, N. Y.
- Turner, O. M., M. D., Assistant Physician Mississippi State Lunatic Asylum, Jackson, Miss. (*Associate Member.*)
- Tuttle, George T., M. D., Assistant Physician McLean Hospital, Waverley, Mass. (*Associate Member.*)
- Van Deusen, Edwin H., M. D., (formerly Medical Superintendent Michigan Asylum for the Insane), Kalamazoo, Mich.
- Vallée, Arthur, M. D., Medical Superintendent Quebec Asylum for the Insane, Quebec.
- VanGleson, Ira, M. D., Director Pathological Institute New York State Hospitals, No. 1 Madison Ave., New York, N. Y.
- Villeneuve, Georges, M. D., Medical Superintendent Asile de Saint Jean de Dieu, Longue-Pointe, Que.
- Wade, J. Percy, M. D., Medical Superintendent Maryland Hospital for the Insane, Catonsville, Md.
- Wagner, Charles G., M. D., Medical Superintendent Binghamton State Hospital, Binghamton, N. Y.
- Ward, John W., M. D., Medical Superintendent New Jersey State Hospital, Trenton, N. J.
- Warden, John L., M. D., (formerly Medical Superintendent Asylum No. 1), Pleasant Hill, Mo.
- Warner, A. L., M. D., (formerly Chief of Medical Staff Illinois Eastern Hospital for the Insane), Kankakee, Ill. (*Associate Member.*)
- Watson, Florence Hull, M. D., Pathological Department State Hospital for Insane, Norristown, Pa.
- Waughop, John W., M. D., Medical Superintendent Western Washington Hospital for the Insane, Fort Steilacoom, Wash.
- Wegge, William F., M. D., (formerly Medical Superintendent Northern Hospital for the Insane), Oshkosh, Wis.

- Welch, G. O., M. D., Medical Superintendent Fergus Falls State Hospital, Fergus Falls, Minn.
- Wentworth, Lowell F., M. D., (formerly Medical Superintendent Kansas Insane Asylum), Alms House and Hospital, Long Island, Boston Harbor, Mass.
- White, M. J., M. D., Medical Superintendent Milwaukee Hospital for the Insane, Wauwatosa, Wis.
- Willgus, Sidney D., M. D., Assistant Physician St. Lawrence State Hospital, Ogdensburg, N. Y. (*Associate Member.*)
- Williamson, Alonzo P., M. D., (formerly Medical Superintendent Fergus Falls State Hospital), 604 Nicolet Ave., Minneapolis, Minn.
- Wilsey, O. J., M. D., Long Island Home, Amityville, N. Y.
- Wilson, R. S., M. D., (formerly Medical Superintendent State Lunatic Asylum No. 1, Fulton, Mo.),.....Tex.
- Winslow, F. C., M. D., Physician Superintendent Illinois Central Hospital for the Insane, Jacksonville, Ill.
- Wise, Peter M., M. D., President State Commission in Lunacy, No. 1 Madison Ave., New York, N. Y.
- Witte, M. E., M. D., Assistant Physician Iowa Hospital for the Insane, Mt. Pleasant, Ia.
- Witmer, A. H., M. D., Assistant Physician Government Hospital for the Insane, Washington, D. C. (*Associate Member.*)
- Woodbury, Charles E., M. D., Inspector of Institutions State Board of Lunacy and Charity, Boston, Mass.
- Woodson, C. R., M. D., Medical Superintendent State Lunatic Asylum No. 2, St. Joseph, Mo.
- Worcester, William L., M. D., Pathologist Danvers Lunatic Hospital, Danvers, Mass.
- Worham, B. M., M. D., Superintendent State Hospital for the Insane, Austin, Texas.
- Wright, W. E., M. D., Assistant Physician State Lunatic Hospital, Harrisburg, Pa. (*Associate Member.*)
- Yellowlees, David, M. D., F. F. P. S., LL. D., Physician Superintendent Royal Asylum, Gartnavel, Glasgow, Scotland. (*Honorary Member.*)



GEOGRAPHICAL DISTRIBUTION

OF

MEMBERS AND INSTITUTIONS.

ALABAMA—ALABAMA BRYCE INSANE HOSPITAL, TUSCALOOSA.

James T. Searcy, M. D., Superintendent

Eugene D. Bondurant, 57 St. Joseph St., Mobile.

ARKANSAS—STATE LUNATIC ASYLUM, LITTLE ROCK.

P. O. Hooper, M. D., Superintendent.

CALIFORNIA—STATE INSANE ASYLUM, STOCKTON.

NAPA STATE HOSPITAL FOR THE INSANE, NAPA.

A. M. Gardner, M. D., Superintendent.

L. F. Dozier, M. D., Assistant Physician.

STATE INSANE ASYLUM, AGNEWS.

SOUTHERN CALIFORNIA STATE HOSPITAL, SAN BERNARDINO.

Merritt B. Campbell, M. D., Superintendent.

A. Stanley Dolan, M. D., Assistant Superintendent.

COLORADO—COLORADO STATE INSANE ASYLUM, PUEBLO.

P. R. Thombs, M. D., Superintendent.

J. T. Eskridge, M. D., Denver.

CONNECTICUT—RETREAT FOR THE INSANE, HARTFORD.

Henry P. Stearns, M. D., Superintendent.

CONNECTICUT HOSPITAL FOR THE INSANE, MIDDLETOWN.

Chas. W. Page, M. D., Superintendent.

Henry S. Noble, M. D., Assistant Superintendent.

William E. Fisher, M. D., Assistant Physician.

Charles E. Stanley, M. D., Assistant Physician.

James M. Kenniston, M. D., Assistant Physician.

Winthrop B. Hallock, M. D., Cromwell Hall, Cromwell.

Edwin Everett Smith, M. D., Kensett, South Wilton.

Amos J. Givens, M. D., Stamford Hall, Stamford.

DELAWARE—DELAWARE STATE HOSPITAL, FARNHURST.

W. H. Hancker, M. D., Superintendent.

**DISTRICT OF COLUMBIA—GOVERNMENT HOSPITAL FOR THE INSANE,
WASHINGTON.**

W. W. Godding, M. D., Superintendent.

A. H. Witmer, M. D., Assistant Physician.

M. J. Stack, M. D., Assistant Physician.

J. C. Simpson, M. D., Assistant Physician.

C. H. Latimer, M. D., Assistant Physician.

I. W. Blackburn, M. D., Special Pathologist.

FLORIDA—ASYLUM FOR THE INDIGENT INSANE, CHATTAHOOCHEE.**GEORGIA—STATE LUNATIC ASYLUM, MILLEDGEVILLE.**

Theophilus O. Powell, M. D., Superintendent.

Henry D. Allen, M. D., Invalids' Home, Milledgeville.

IDAHO—IDAHO INSANE ASYLUM, BLACKFOOT.

John W. Givens, M. D., Superintendent.

ILLINOIS—ILLINOIS CENTRAL HOSPITAL FOR THE INSANE, JACKSONVILLE.

F. C. Winslow, M. D., Physician Superintendent.

ILLINOIS NORTHERN HOSPITAL FOR THE INSANE, ELGIN.

J. B. Hamilton, M. D., Superintendent.

ILLINOIS SOUTHERN HOSPITAL FOR THE INSANE, ANNA.

Samuel Dodds, M. D., Assistant Physician.

ILLINOIS HOSPITAL FOR INSANE CRIMINALS, CHESTER, (MENARD P. O.)**COOK COUNTY HOSPITAL FOR THE INSANE, DUNNING.****ILLINOIS EASTERN HOSPITAL FOR THE INSANE, HOSPITAL.**

William G. Stearns, M. D., Superintendent.

ILLINOIS WESTERN HOSPITAL FOR THE INSANE, WATERTOWN.

Frederick H. Daniels, M. D., Bellevue Place, Batavia.

D. R. Brower, M. D., Chicago.

Sanger Brown, M. D., Chicago.

Henry F. Carriel, M. D., Jacksonville.

Henry M. Bannister, M. D., 828 Judson Ave., Evanston, Ill.

A. L. Warner, M. D., Kankakee.

Frederick O. Jackman, Bloomington, Ill.

GEOGRAPHICAL DISTRIBUTION MEMBERS AND INSTITUTIONS. 25

INDIANA—CENTRAL INDIANA HOSPITAL FOR THE INSANE, INDIANAPOLIS.

Geo. F. Edenharter, M. D., Superintendent.

EASTERN INDIANA HOSPITAL FOR THE INSANE, RICHMOND.

S. E. Smith, M. D., Superintendent.

NORTHERN INDIANA HOSPITAL FOR THE INSANE, LONGCLIFF, LOGANSPORT.

Joseph G. Rogers, M. D., Superintendent.

SOUTHERN INDIANA HOSPITAL FOR THE INSANE, EVANSVILLE.

John R. Brown, M. D., Indianapolis.

IOWA—HOSPITAL FOR THE INSANE, MOUNT PLEASANT.

H. A. Gilman, M. D., Superintendent.

M. E. Witte, M. D., Assistant Physician.

Frank T. Stevens, M. D., Assistant Physician.

Madeline Folkland, M. D., Assistant Physician.

HOSPITAL FOR THE INSANE, INDEPENDENCE.

Gershom H. Hill, M. D., Superintendent.

John C. Doolittle, M. D., Assistant Physician.

George Boody, M. D., Assistant Physician.

Albert M. Barrett, M. D., Assistant Physician.

HOSPITAL FOR THE INSANE, CLARINDA.

F. C. Hoyt, M. D., Superintendent.

Charles F. Applegate, M. D., Assistant Physician.

Anne Burnet, M. D., Assistant Physician.

HOSPITAL FOR THE INSANE, CHEBOKER.

MERCY HOSPITAL, DAVENPORT.

John H. Kulp, M. D., Superintendent.

KANSAS—STATE INSANE ASYLUM, OSAWATOMIE.

KANSAS STATE INSANE ASYLUM, TOPEKA.

B. D. Eastman, M. D., 829 Kansas Ave., Topeka.

KENTUCKY—EASTERN KENTUCKY LUNATIC ASYLUM, LEXINGTON.

CENTRAL KENTUCKY ASYLUM FOR THE INSANE, LAKELAND.

WESTERN KENTUCKY LUNATIC ASYLUM, HOPKINSVILLE.

Frank H. Clarke, M. D., Lexington.

Silas Evans, M. D., Superintendent High Oaks Sanitarium, Lexington.

LOUISIANA—INSANE ASYLUM OF LOUISIANA, JACKSON.**MAINE—MAINE INSANE HOSPITAL, AUGUSTA.**

Bigelow T. Sanborn, M. D., Superintendent.

Horace B. Hill, M. D., Assistant Superintendent.

MARYLAND—MOUNT HOPE RETREAT, BALTIMORE.

Charles G. Hill, M. D., Attending Physician.

Hubert Richardson, M. D., Pathologist.

MARYLAND HOSPITAL FOR THE INSANE, CATONSVILLE.

J. Percy Wade, M. D., Superintendent.

Joseph C. Clark, M. D., Assistant Physician.

SECOND MARYLAND HOSPITAL FOR THE INSANE, SYKESVILLE.

George H. Rohé, M. D., Superintendent.

Milton D. Norris, M. D., Assistant Physician.

SHEPPARD AND ENOCH PRATT HOSPITAL, TOWSON.

Edward N. Brush, M. D., Physician-in-Chief and Superintendent.

Wm. R. Dunton, Jr., M. D., Assistant Physician.

Chas. M. Franklin, M. D., Assistant Physician.

R. F. Gundry, M. D., Richard Gundry Home, Catonsville.

Henry M. Hurd, M. D., Baltimore.

Henry J. Berkley, M. D., Baltimore.

Henry B. Jacobs, M. D., Baltimore.

Robert H. Dodge, M. D., St. Denis.

MASSACHUSETTS—MCLEAN HOSPITAL, WAVERLEY.

Edward Cowles, M. D., Superintendent.

George T. Tuttle, M. D., Assistant Physician.

Aug. Hoch, M. D., Assistant Physician and Pathologist.

BOSTON LUNATIC HOSPITAL, BOSTON.

Edward B. Lane, M. D., Superintendent, Austin Farm.

L. A. Roberts, M. D., Assistant Physician.

William Noyes, M. D., Superintendent, Mattapan.

Fred Bennett Colby, M. D., Assistant Physician.

WORCESTER INSANE ASYLUM, WORCESTER.

Ernest V. Scribner, M. D., Superintendent.
H. W. Page, M. D., Assistant Physician.

WORCESTER LUNATIC HOSPITAL, WORCESTER.

Hosea M. Quinby, M. D., Superintendent.
Alfred I. Noble, M. D., Assistant Superintendent.
Adolf Meyer, M. D., Pathologist.
R. R. Gurley, M. D., Assistant Physician.

DANVERS LUNATIC HOSPITAL, DANVERS.

Arthur H. Harrington, M. D., Superintendent.
George P. Sprague, M. D., Assistant Physician
William L. Worcester, M. D., Pathologist.

TAUNTON LUNATIC HOSPITAL, TAUNTON.

John P. Brown, M. D., Superintendent.
Arthur V. Goss, M. D., Assistant Physician.

NORTHAMPTON LUNATIC HOSPITAL, NORTHAMPTON.

John A. Houston, M. D., Superintendent.
Charles M. Holmes, M. D. Assistant Physician.
Edward B. Nims, M. D., Northampton.

MEDFIELD HOSPITAL FOR THE INSANE, MEDFIELD.

Edward French, M. D., Superintendent.
Chas. A. Drew, M. D., Assistant Physician.

WESTBOROUGH INSANE HOSPITAL, WESTBOROUGH.

George S. Adams, M. D., Superintendent.

MASSACHUSETTS HOSPITAL FOR DIPSO. AND INEBRIATES, FOXBORO.

Marcello Hutchinson, M. D., Superintendent.

ASYLUM FOR THE CHRONIC INSANE, TEWKSBURY.

PRIVATE HOSPITAL FOR MENTAL DISEASES, BROOKLINE.

Walter Channing, M. D., Superintendent.
W. M. Knowlton, M. D., Assistant Physician.

ASYLUM FOR INSANE CRIMINALS, STATE FARM, BRIDGEWATER.

MASSACHUSETTS HOSPITAL FOR EPILEPTICS, PALMER.

Owen Copp, M. D., Superintendent.

T. W. Fisher, M. D., Boston.

John G. Park, M. D., Groton.

George, F. Jelly, M. D., 69 Newbury St., Boston.

Henry R. Stedman, M. D., Woodbourne, Roslindale, Boston.

L. W. Baker, M. D., Riverview, Baldwinville.

Merrick Bemis, M. D., Herbert Hall, Worcester.

N. Emmons, Paine, M. D., Newton Nervine, West Newton.

Alice Bennett, M. D., Wrentham.

G. H. M. Rowe, M. D., City Hospital, Boston.

C. E. Woodbury, M. D., State House, Boston.

Walter E. Fernald, M. D., Waverley.

Lowell F. Wentworth, M. D., Long Island, Boston Harbor.

Henry C. Baldwin, M. D., 126 Commonwealth Ave., Boston.

James J. Putnam, M. D., 106 Marlboro St., Boston.

J. L. Hildreth, M. D., Cambridge.

L. M. Selling, M. D., Agawam.

Herbert B. Howard, M. D., Massachusetts General Hospital, Boston.

MICHIGAN—MICHIGAN ASYLUM FOR THE INSANE, KALAMAZOO.

William M. Edwards, M. D., Superintendent.

William A. Stone, M. D., Assistant Superintendent.

Herman Ostrander, M. D., Assistant Physician.

Arthur MacGugan, M. D., Assistant Physician.

EASTERN MICHIGAN ASYLUM, PONTIAC.

E. A. Christian, M. D., Superintendent.

Jason Morse, M. D., Assistant Superintendent.

Irwin H. Neff, M. D., Assistant Physician.

NORTHERN MICHIGAN ASYLUM, TRAVERSE CITY.

James D. Munson, M. D., Superintendent.

ASYLUM FOR DANGEROUS AND CRIMINAL INSANE, IOWA.

Oscar R. Long, M. D., Superintendent.

UPPER PENINSULA HOSPITAL FOR THE INSANE, NEWBERRY.**ST. JOSEPH'S RETREAT, DEARBORN.**

J. E. Emerson, M. D., Attending Physician.

OAK GROVE HOSPITAL, FLINT.

C. B. Burr, M. D., Medical Director.

H. R. Niles, M. D., Assistant Physician.

E. H. Van Deusen, M. D., Kalamazoo.

MINNESOTA—ST. PETER STATE HOSPITAL, ST. PETER.

H. A. Tomlinson, M. D., Superintendent.

ROCHESTER STATE HOSPITAL, ROCHESTER.

Arthur F. Kilbourne, M. D., Superintendent.

R. M. Phelps, M. D., Assistant Superintendent.

FERGUS FALLS STATE HOSPITAL, FERGUS FALLS.

G. O. Welch, M. D., Superintendent.

Cyrus K. Bartlett, M. D., Minneapolis.

Alonzo P. Williamson, M. D., Minneapolis.

MISSISSIPPI—MISSISSIPPI STATE LUNATIC ASYLUM, JACKSON.

Thomas J. Mitchell, M. D., Superintendent.

Nolan Stewart, M. D., Assistant Physician.

O. M. Turner, M. D., Assistant Physician.

EAST MISSISSIPPI INSANE ASYLUM, MERIDIAN.

J. M. Buchanan, M. D., Superintendent.

MISSOURI—ST. VINCENT INSTITUTION FOR THE INSANE, ST. LOUIS.

STATE LUNATIC ASYLUM, NO. 1, FULTON.

STATE LUNATIC ASYLUM, NO. 2, ST. JOSEPH.

C. R. Woodson, M. D., Superintendent.

STATE LUNATIC ASYLUM, NO. 3, NEVADA.

J. F. Robinson, M. D., Superintendent.

CITY ASYLUM, ST. LOUIS.

Edward C. Runge, M. D., Superintendent.

Charles H. Hughes, M. D., St. Louis.

Charles G. Chaddock, M. D., St. Louis.

John L. Warden, M. D., Pleasant Hill.

George C. Crandall, M. D., St. Louis.

Arthur E. Mink, M. D., St. Louis.

John Punton, M. D., Kansas City.

NEBRASKA—NEBRASKA HOSPITAL FOR THE INSANE, ASYLUM.

HOSPITAL FOR THE CHRONIC INSANE, HASTINGS.

Robert Dameron, M. D., Superintendent.

NORFOLK HOSPITAL FOR THE INSANE, NORFOLK.

George F. Kelper, M. D., Superintendent.

J. T. Hay, M. D., Lincoln.

NEVADA—NEVADA HOSPITAL FOR MENTAL DISEASES, RENO.**NEW HAMPSHIRE—NEW HAMPSHIRE ASYLUM, CONCORD.**

Charles P. Bancroft, M. D., Superintendent.

Frederick L. Hills, M. D., Assistant Physician.

William E. Lightle, M. D., Assistant Physician.

NEW JERSEY—ESSEX COUNTY HOSPITAL FOR THE INSANE, NEWARK.

L. S. Hinckley, M. D., Superintendent.

NEW JERSEY STATE HOSPITAL, MORRIS PLAINS.

B. D. Evans, M. D., Medical Director.

Elliot Gorton, M. D., Assistant Physician.

Peter S. Mallon, M. D., Assistant Physician.

Thomas P. Prout, M. D., Assistant Physician.

NEW JERSEY STATE HOSPITAL, TRENTON.

John W. Ward, M. D., Superintendent.

John C. Felty, M. D., Assistant Physician.

NEW YORK—BLOOMINGDALE ASYLUM, WHITE PLAINS.

Samuel B. Lyon, M. D., Superintendent.

Charles E. Atwood, M. D., Assistant Physician.

MANHATTAN STATE HOSPITAL, WARD'S ISLAND.

A. E. Macdonald, M. D., General Superintendent.

Emmett C. Dent, M. D., Superintendent Female Department.

Percy Bryant, M. D., Superintendent Male Department.

MANHATTAN STATE HOSPITAL, HART'S ISLAND.**MANHATTAN STATE HOSPITAL, CENTRAL ISLIP, LONG ISLAND.**

George A. Smith, M. D., Superintendent.

Marcus B. Heyman, M. D., Assistant Physician.

LONG ISLAND STATE HOSPITAL, BROOKLYN.

Robert M. Elliott, M. D., Superintendent.

Ira O. Tracy, M. D., Assistant Physician.

LONG ISLAND STATE HOSPITAL, KING'S PARK.

Oliver M. Dewing, M. D., Superintendent.

STATE HOMOEOPATHIC HOSPITAL, MIDDLETOWN.

Selden H. Talcott, M. D., Superintendent.

C. Spencer Kinney, M. D., Assistant Physician.

HUDSON RIVER STATE HOSPITAL, Poughkeepsie.

C. W. Pilgrim, M. D., Superintendent.

Charles H. Langdon, M. D., Assistant Physician.

J. Elvin Courtney, M. D., Assistant Physician.

Thomas E. Bamford, M. D., Assistant Physician.

Frederick J. Mann, M. D., Assistant Physician.

Emma Putnam, M. D., Assistant Physician.

J. O. Stranahan, M. D., Assistant Physician.

MARSHALL INFIRMARY, TROY.

Joseph D. Lomax, M. D., Superintendent.

UTICA STATE HOSPITAL, UTICA.

G. Alder Blumer, M. D., Superintendent.

Harold L. Palmer, M. D., Assistant Physician.

BINGHAMTON STATE HOSPITAL, BINGHAMTON.

Charles G. Wagner, M. D., Superintendent.

Charles C. Eastman, M. D., Assistant Physician.

ST. LAWRENCE STATE HOSPITAL, OGDENSBURG.

William Mabon, M. D., Superintendent.

R. H. Hutchings, M. D., Assistant Physician.

Warren L. Babcock, M. D., Assistant Physician.

Caroline L. Pease, M. D., Assistant Physician.

Elbert M. Somers, Jr., M. D., Assistant Physician.

Sidney D. Wilgus, M. D., Assistant Physician.

MATTEAWAN STATE HOSPITAL, FISHKILL LANDING.

Henry E. Allison, M. D., Superintendent.

BRIGHAM HALL, CANANDAIGUA.

D. R. Burrell, M. D., Resident Physician.

WILLARD STATE HOSPITAL, WILLARD.

William A. Macy, M. D., Superintendent.

William L. Russell, M. D., Assistant Physician.

ROCHESTER STATE HOSPITAL, ROCHESTER.

Eugene H. Howard, M. D., Superintendent.

Ezra B. Potter, M. D., Assistant Physician.

Eveline P. Ballantine, M. D., Assistant Physician.

BUFFALO STATE HOSPITAL, BUFFALO.

Arthur W. Hurd, M. D., Superintendent.

COLLINS STATE HOMEOPATHIC HOSPITAL, GOWANDA.

STATE CUSTODIAL ASYLUM, ROME.

John F. FitzGerald, M. D., Superintendent.

Daniel A. Harrison, M. D., Breezehurst Terrace, Whitestone, L. I.

Peter M. Wise, M. D., Pres. State Commission in Lunacy, New York.

Carlos F. MacDonald, M. D., Pleasantville, and 85 Madison Ave., New York.

Ralph L. Parsons, M. D., Greenmont, near Sing Sing, N. Y.

O. J. Wilsey, M. D., Long Island Home, Amityville.

Frederick Sefton, M. D., The Pines, Auburn.

William D. Granger, M. D., Vernon House, Bronxville.

Frederick Peterson, M. D., 60 W. 50th St., New York.

Landon C. Gray, M. D., 6 E. 49th St., New York.

B. Sachs, M. D., 21 E. 65th St., New York.

Charles H. Brown, M. D., 25 W. 45th St., New York.

H. Ernst Schmid, M. D., White Plains, New York.

Theo. H. Kellogg, M. D., Riverdale, New York City.

J. M. Mosher, M. D., 203 Lark St., Albany.

J. J. Kindred, M. D., River Crest, Astoria, L. I.

W. E. Sylvester, M. D., Brooklyn, N. Y.

Ira VanGieson, M. D., 1 Madison Ave., New York.

NORTH CAROLINA—NORTH CAROLINA INSANE ASYLUM, RALEIGH.

George L. Kirby, M. D., Superintendent.

STATE HOSPITAL, MORGANTON.

P. L. Murphy, M. D., Superintendent.

Isaac M. Taylor, M. D., Assistant Physician.

EASTERN STATE HOSPITAL, GOLDSBORO.

John F. Miller, M. D., Superintendent.

NORTH DAKOTA—NORTH DAK. HOSPITAL FOR THE INSANE, JAMESTOWN.

OHIO—LONG VIEW HOSPITAL, CARTHAGE.

F. W. Harmon, M. D., Superintendent.

DAYTON STATE HOSPITAL, DAYTON.

J. M. Ratliff, M. D., Superintendent.

COLUMBUS STATE HOSPITAL, COLUMBUS.

ATHENS STATE HOSPITAL, ATHENS.

CLEVELAND STATE HOSPITAL, CLEVELAND.

H. C. Eyman, M. D., Superintendent.

Andrew J. McNamara, M. D., Assistant Physician.

TOLEDO STATE HOSPITAL, TOLEDO.

H. A. Tobey, M. D., Superintendent.

MASSILLON STATE HOSPITAL, MASSILLON.

A. B. Richardson, M. D., Superintendent.

O. Everts, M. D., Cincinnati Sanitarium, College Hill.

George F. Cook, M. D., Oxford Retreat, Oxford.

R. Harvey Cook, M. D., Oxford Retreat, Oxford.

A. B. Howard, M. D., Fair Oaks, Cuyahoga Falls.

William Searl, M. D., Fair Oaks, Cuyahoga Falls.

W. P. Crumbacker, M. D., Cambridge.

OREGON—OREGON STATE INSANE ASYLUM, SALEM.

Henry W. Coe, M. D., Portland.

PENNSYLVANIA—PENNSYLVANIA HOSPITAL FOR THE INSANE, PHIL'A.

John B. Chapin, M. D., Superintendent.

A. R. Moulton, M. D., Senior Assistant Physician.

Henry B. Nunemaker, M. D., Assistant Physician.

Eli E. Josselyn, M. D., Assistant Physician.

FRIENDS' ASYLUM FOR THE INSANE, FRANKFORD, PHIL'A.

Robert H. Chase, M. D., Superintendent.

PHILADELPHIA HOSPITAL (INSANE DEPARTMENT).

D. E. Hughes, M. D., Resident Physician.

George Milton Bradfield, M. D., Assistant Physician Male Department.

STATE HOSPITAL FOR THE INSANE, NORRISTOWN.

D. D. Richardson, M. D., Resident Physician, Department for Men.

Susan J. Taber, M. D., Resident Physician, Department for Women.

Florence Hull Watson, M. D., Pathological Department.

PENNSYLVANIA STATE LUNATIC HOSPITAL, HARRISBURG.

H. L. Orth, M. D., Superintendent.

W. E. Wright, M. D., Assistant Physician.

STATE HOSPITAL FOR THE INSANE, WARREN.

John Curwen, M. D., Superintendent.

Morris S. Guth, M. D., Assistant Physician.

STATE HOSPITAL FOR THE INSANE, DANVILLE.

Hugh B. Meredith, M. D., Superintendent.

Chas. B. Mayberry, Assistant Physician.

WESTERN PENNSYLVANIA HOSPITAL FOR THE INSANE, DIXMONT.

Henry A. Hutchinson, M. D., Superintendent.

PENNSYLVANIA EPILEPTIC HOSPITAL AND COLONY FARM, OAKBOURNE.

J. Frank Edgerly, M. D., Superintendent.

ASYLUM FOR THE CHRONIC INSANE, WERNERSVILLE.

Katherine Northrop, M. D., Resident Physician, Women's Department.

Charles K. Mills, M. D., 1909 Chestnut St., Philadelphia.

W. Brown Ewing, 515 Penn Ave., Pittsburg.

RHODE ISLAND—BUTLER HOSPITAL FOR THE INSANE, PROVIDENCE.

William A. Gorton, M. D., Superintendent.

Henry C. Hall, M. D., Assistant Physician.

STATE HOSPITAL FOR THE INSANE, CRANSTON (HOWARD P. O.).

George F. Keene, M. D., Superintendent.

SOUTH CAROLINA—STATE HOSPITAL FOR THE INSANE, COLUMBIA.

J. W. Babcock, M. D., Superintendent.

J. L. Thompson, M. D., Assistant Physician.

SOUTH DAKOTA—SOUTH DAKOTA HOSPITAL FOR THE INSANE, YANKTON.

L. C. Mead, M. D., Superintendent.

G. A. Chilgren, M. D., Assistant Physician.

TENNESSEE—CENTRAL HOSPITAL FOR THE INSANE, NASHVILLE.

John A. Beauchamp, M. D., Superintendent.

Paul W. Kirkpatrick, M. D., Assistant Physician.

EASTERN HOSPITAL FOR THE INSANE, KNOXVILLE.

Michael Campbell, M. D., Superintendent.

WESTERN HOSPITAL FOR THE INSANE, BOLIVAR.

John P. Douglass, M. D., Superintendent.

William A. Cheatham, M. D., Nashville.

Barton W. Stone, M. D., Nashville.

TEXAS—STATE LUNATIC ASYLUM, AUSTIN.

B. M. Worsham, M. D., Superintendent.

NORTH TEXAS HOSPITAL FOR THE INSANE, TERRELL.

HOSPITAL FOR THE INSANE, SAN ANTONIO.

Charles M. Rosser, M. D., Dallas.

R. S. Wilson, M. D.....

VERMONT—BRATTLEBORO RETREAT, BRATTLEBORO.

Shaller E. Lawton, M. D., Superintendent.

Whitefield N. Thompson, M. D., Assistant Physician.

VERMONT STATE ASYLUM FOR THE INSANE, WATERBURY.

VIRGINIA—EASTERN STATE HOSPITAL, WILLIAMSBURG.

James D. Moncure, M. D., Superintendent.

CENTRAL STATE HOSPITAL, PETERSBURG.

W. F. Drewry, M. D., Superintendent.

WESTERN STATE HOSPITAL, STAUNTON.

Benjamin Blackford, M. D., Superintendent.

SOUTHWESTERN STATE HOSPITAL, MARION.

R. J. Preston, M. D., Superintendent.

WASHINGTON—WESTERN WASHINGTON HOSPITAL FOR THE INSANE, FORT STELLACOOM.

John W. Waughop, M. D., Superintendent.

EASTERN WASHINGTON HOSPITAL FOR THE INSANE, MEDICAL LAKE.

John M. Semple, M. D., Spokane.

WEST VIRGINIA—WEST VIRGINIA HOSPITAL FOR THE INSANE, WESTON.

W. E. Stathers, M. D., Superintendent.

SECOND HOSPITAL FOR THE INSANE, SPENCER.

W. D. Row, M. D., Parkersburg.

WISCONSIN—WISCONSIN STATE HOSPITAL FOR THE INSANE, MENKOTA.

W. B. Lyman, M. D., Superintendent.

NORTHERN HOSPITAL FOR THE INSANE, WINNEBAGO.

W. A. Gordon, M. D., Superintendent.

MILWAUKEE HOSPITAL FOR THE INSANE, WAUWATOSA.

M. J. White, M. D., Superintendent.

MILWAUKEE SANITARIUM, WAUWATOSA.

Richard Dewey, M. D., Physician-in-Charge.

James H. McBride, M. D., Wauwatosa.

John B. Edwards, M. D., Mauston.

William F. Wegge, M. D., Oshkosh.

BRITISH AMERICA.

ONTARIO—ASYLUM FOR THE INSANE, TORONTO.

Daniel Clark, M. D., Superintendent.

ASYLUM FOR THE INSANE, LONDON.

Richard M. Bucke, M. D., Superintendent.

H. D. Buchan, M. D., Assistant Superintendent.

ROOKWOOD HOSPITAL FOR THE INSANE, KINGSTON.

Charles K. Clarke, M. D., Superintendent.

ASYLUM FOR THE INSANE, HAMILTON.

James Russell, M. D., Superintendent.

Thomas W. Reynolds, M. D., Assistant Physician.

ASYLUM FOR THE INSANE, MIMICO, TORONTO.

Nelson H. Beemer, M. D., Superintendent.

ASYLUM FOR THE INSANE, BROCKVILLE.

John B. Murphy, M. D., Superintendent.

QUEBEC—PROTESTANT HOSPITAL FOR THE INSANE, MONTREAL.

T. J. W. Burgess, M. D., Superintendent.

ASILE DES ALIENES DE SAINT JEAN DE DIEU, LONGUE POINTE.

Georges Villeneuve, M. D., Superintendent.

E. J. Bourque, M. D., Longue Pointe.

J. A. Prieur, M. D., Longue Pointe.

E. Phillipe Chagnon, M. D., Longue Pointe.

QUEBEC LUNATIC ASYLUM, QUEBEC.

A. Vallée, M. D., Superintendent.

NOVA SCOTIA—NOVA SCOTIA HOSPITAL FOR THE INSANE, HALIFAX.

George L. Sinclair, M. D., Superintendent.

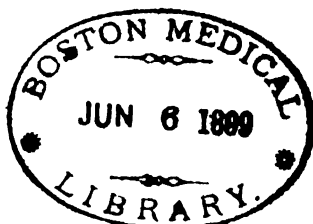
NEW BRUNSWICK—PROVINCIAL LUNATIC ASYLUM, ST. JOHN.

PRINCE EDWARD ISLAND—HOSPITAL FOR INSANE, CHARLOTTETOWN.

NEWFOUNDLAND—LUNATIC ASYLUM, ST. JOHN'S.

HONORARY MEMBERS.

- T. S. Clouston, M. D., F. R. C. P., F. R. S. E., Edinburgh, Scotland.
David Yellowlees, M. D., F. F. P. S., LL. D., Glasgow, Scotland.
A. Motet, M. D., Paris, France.
A. Tamburini, M. D., Reggio-Emilia, Italy.
Foster Pratt, M. D., Kalamazoo, Mich.
Stephen Smith, M. D., New York, N. Y.
G. Stanley Hall, Ph. D., Worcester, Mass.
Charles F. Folsom, M. D., Boston, Mass.
James Rutherford, M. D., F. R. C. P., F. F. P. S., Dumfries, Scotland.
S. Weir Mitchell, M. D., Philadelphia, Pa.
Victor Parant, M. D., Toulouse, France.
Jules Morel, M. D., Mons, Belgium.
Emmanuel Régis, M. D., Bordeaux, France.
Réné Semelaigne, M. D., Paris, France.
James M. Buckley, D. D., LL. D., Morristown, N. J.



American Medico-Psychological Association.

CONSTITUTION

ARTICLE I.

This organization shall be known as the **AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION**, this name being adopted in 1892 by "The Association of Medical Superintendents of American Institutions for the Insane," founded in 1844.

ARTICLE II.

The object of this Association shall be the study of all subjects pertaining to mental disease, including the care, treatment, and promotion of the best interests of the insane.

ARTICLE III.

There will be four classes of members: (1) Active members, who shall be physicians, resident in the United States and British America, especially interested in the treatment of insanity; (2) Associate members; (3) Honorary members; and (4) Corresponding members.

ARTICLE IV.

The officers of the Association shall consist of a President, Vice-President, Secretary—who shall also be the Treasurer—two Auditors, and twelve other members of the Association to be called Councilors; all of these officers together shall constitute a body which shall be known as the Council.

NOTE.—The Association of Medical Superintendents of American Institutions for the Insane was founded in 1844 by the original thirteen members. In 1891, when its membership had increased to more than two hundred, it was proposed, at the annual meeting of that year in Washington, to form a better organization of the Association—its work having previously been done under the somewhat unstable rules of custom and a few resolutions scattered through its records. The proposition was agreed to, and at the annual meeting in Washington, in 1892, there was unanimously adopted the following Constitution and By-Laws, with the change of name to the **AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.**

ARTICLE V.

The Active members of the Association shall include all past and present medical superintendents named in the official list published for 1892 of members of "The Association of Medical Superintendents of American Institutions for the Insane;" the Honorary members shall include those so designated in that list; the Associate members shall include all the assistant physicians named in the same list; it being provided that said list shall be corrected by the Council, as may be necessary to carry out the intention of the Constitution as to the continuance of existing membership.

Every candidate for admission to the Association hereafter, in either of the three above named classes of members, or as a Corresponding member, shall be proposed in writing to the Council, in an application addressed to the President, at least two months prior to the meeting of the Association, with a statement of the candidate's name and residence, professional qualifications, and any appointments then or formerly held, and certifying that he is a fit and proper person for membership. In the case of a candidate for Active or Associate membership, the application shall be signed by three Active members of the Association; and by six Active members for the proposal of an Honorary or Corresponding member. The names of all candidates approved by a majority vote of members of the Council present at its annual meeting, shall be presented on a written or printed ballot to the Association at its concurrent annual meeting, at least one session previous to that at which the election is made, which shall be by ballot at a regular session, and require a majority vote of the members present.

Physicians, who by their professional work or published writings have shown a special interest in the care and welfare of the insane, are eligible to Active Membership.

The only persons eligible for Associate membership are regularly appointed assistant physicians of institutions for the insane that are regarded to be properly such by the Council; and they are eligible for such membership only during the time they are holding such appointments. After holding such an appointment three years, an Associate member may become an Active member by making application in writing to the Council,

and upon its approval, being elected in the manner heretofore prescribed.

ARTICLE VI.

Physicians, and others who have distinguished themselves by their attainments in branches of science connected with insanity, or who have rendered signal service in philanthropic efforts to promote the interests of the insane, shall be eligible for Honorary membership.

Physicians not resident in the United States and British America, who are actively engaged in the treatment of insanity, may be elected Corresponding members.

Active members only shall be entitled to a vote at any meeting, or be eligible to any office. Honorary and Corresponding members shall be exempt from all payments to the Association.

ARTICLE VII.

Any member of the Association may withdraw from it on signifying his desire to do so in writing to the Secretary, provided that he shall have paid all his dues to the Association. Any member who shall fail for three successive years to pay his dues after special notice by the Treasurer shall be regarded as having resigned his membership, unless such dues shall have been remitted by the Council for good and sufficient reasons.

Any member who shall be declared unfit for membership by a two-thirds vote of the members of the Council present at an annual meeting of that body shall have his name presented by it for the action of the Association from which he shall be dismissed if it be so voted by two-thirds of the members present at its annual meeting.

ARTICLE VIII.

The Officers and Councilors shall be elected at each annual meeting. They shall be nominated to the Association on the second day of the annual meeting in the order of business of the first session of that day, by a committee appointed for that purpose by the President; and the election shall take place immediately. The election shall be made as the meeting may determine, and the person who shall have received the highest number of votes shall be declared elected to the office for which he has been nominated.

The President, Vice-President, the Secretary and Treasurer, and Auditors, shall hold office for one year or until the beginning of the term for which their successors are elected. The Secretary and Treasurer and one Auditor are eligible for re-election. At the first election of Councilors, four members shall be elected for one year, four for two years, and four for three years; and thereafter four members shall be elected each year, to hold office three years, or until their successors are elected. The President, Vice-President, one Auditor, and the four retiring Councilors are ineligible for re-election to their respective offices for one year immediately following their retirement. All the officers and Councilors shall enter upon their duties immediately after their election, excepting the President and Vice-President. When any vacancies occur in any of the offices of the Association, they shall be filled by the Council until the next annual meeting.

A quorum of the Council shall be formed by six members; and of the Association by twenty Active members.

ARTICLE IX.

The President and Vice-President for the year shall enter on their duties at the close of the business of the annual meeting at which they are elected. The President shall prepare an inaugural address, to be delivered at the opening session of the meeting. He shall preside at all the annual or special meetings of the Association or Council, or in his absence at any time the Vice-President shall act in his place.

The Secretary and Treasurer shall keep the records of the Association and perform all the duties usually pertaining to that office, and such other duties as may be prescribed for him by the Council; and under the same authority he shall receive and disburse and duly account for all sums of money belonging to the Association. He shall keep accurate accounts and vouchers of all his receipts and payments on behalf of the Association, and of all invested funds, with the income and disposition thereof, that may be placed in his keeping, and shall submit these accounts, with a financial report for the preceding year, to the Council at its annual meeting. Each annual statement shall be examined by the Auditors, who will prepare and present at each annual meeting of the Association a report showing its

financial condition. The Council shall have charge of any funds in the possession of the Association, and which shall be invested under its direction and control. The Council shall keep a careful record of its proceedings, and make an annual report to the Association of matters of general interest. The Council shall also print annually the proceedings of the meetings of the Association and the reports of the Treasurer and Auditors.

The Council is empowered to manage all the affairs of the Association, subject to the Constitution and By-Laws; to appoint committees from the membership of the Association, and spend money out of its surplus funds for special scientific investigations in matters pertaining to the objects of the Association; to publish reports of such scientific investigations; to apply the income of special funds, at its discretion, to the purposes for which they were intended. The Council may also engage in the regular publication of reports, papers, transactions and other matters, in an annual volume, or in a journal, in such manner and at such time as the Council may determine, with the approval of the Association.

ARTICLE X.

Amendments to the Constitution and By-Laws shall be taken up for consideration at the first session of the second day of any annual meeting, and may be made by a two-thirds vote of all the members present, provided that notice of such proposed amendments be given in writing at the annual meeting next preceding. It shall be the duty of the Secretary to send to all the members a copy of any proposed amendment at least three months previous to the meeting when the action is to be taken.

BY-LAWS

ARTICLE I.

The meetings of the Association shall be held annually. The time and place of each meeting shall be named by the Council, and reported to the Association for its action at the preceding meeting. Each annual meeting shall be called by printed announcement sent to each member, at least three months previous to the meeting.

The Council shall hold an annual meeting concurrent with the annual meeting of the Association; and the Council shall hold as many sessions, and at such times, as the business of the Association may require.

Special meetings of the Council may be called by the order of the Council. The President shall have authority at any time, at his own discretion, to instruct the Secretary to call a special meeting of the Council; and he shall be required to do so upon a request signed by six members of the Council. Such special meetings shall be called by giving at least four weeks' written notice.

ARTICLE II.

Each and every Active and Associate member shall pay an annual tax to the Treasurer, the amount to be fixed annually by the Council, not to exceed five dollars for an Active member, or two dollars for an Associate member.

ARTICLE III.

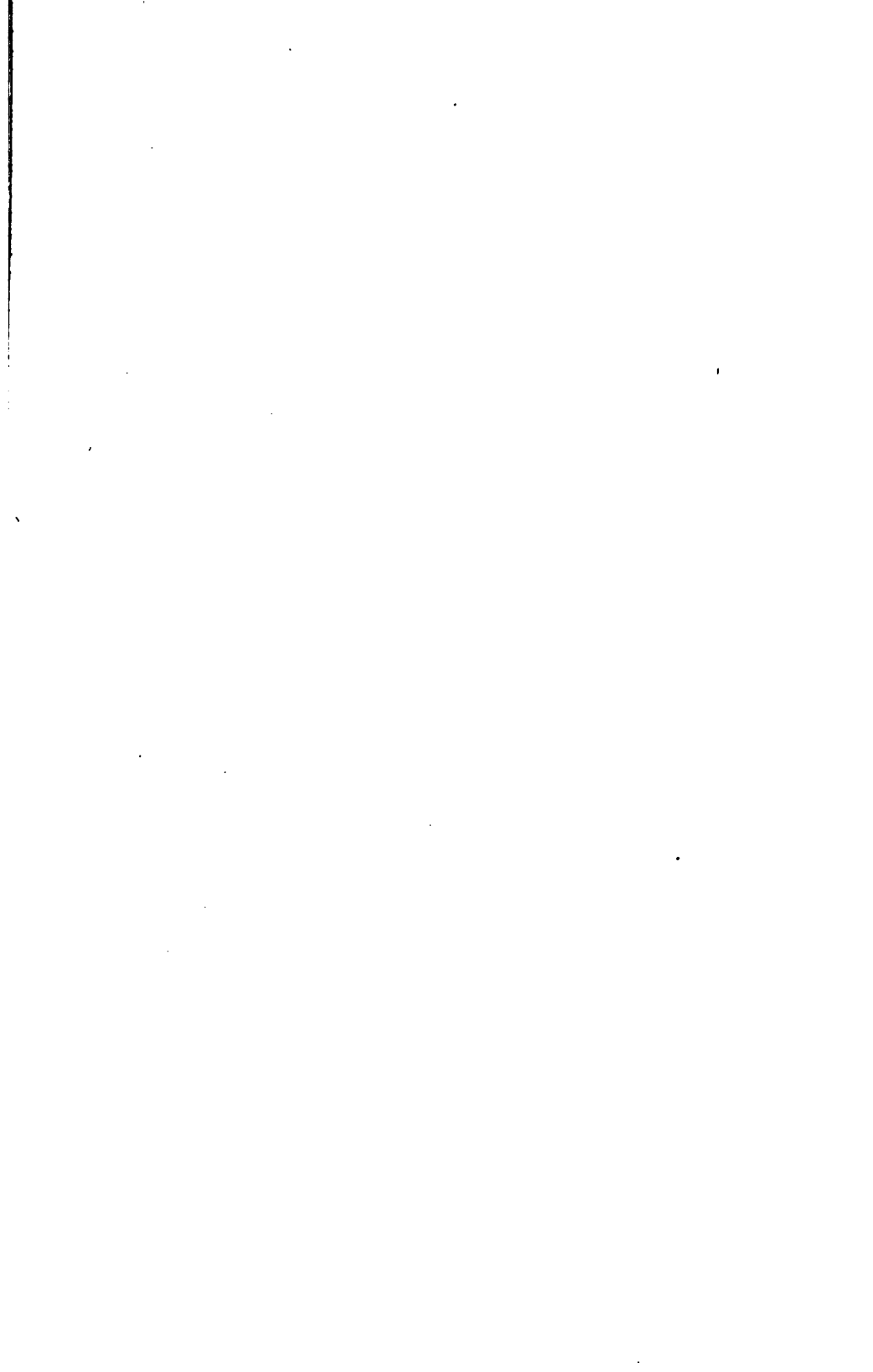
The order of business of each annual meeting of the Association shall be determined by the Council, and shall be printed for the use of the Association at its meeting. The Council shall also make all arrangements for the meetings of the Association, appointing such auxiliary committees from its own body, or from other members of the Association, and making such other provisions as shall be requisite, at its discretion.

NOTE.

The accompanying volume containing the proceedings, papers, and discussions of the American Medico-Psychological Association, at its fifty-fourth annual meeting, is printed by the Council with the approval of the Association.

C. B. BURR,
SECRETARY.

FLINT, Mich., October 1, 1898.



American Medico-Psychological Association.

PROCEEDINGS OF THE FIFTY-FOURTH ANNUAL MEETING.

TUESDAY, May 10, 1898.

FIRST SESSION.

The Association convened at 10 o'clock a. m. in the parlor of the Southern Hotel, St. Louis, Mo., and was called to order by the President, Dr. R. M. Bucke, of London, Ontario.

Dr. C. R. Woodson, Chairman of the Committee of Arrangements, expressed great regret that Governor Stephens was detained at home by important business connected with the executive department and would be unable to address the Association. He introduced the Honorable Henry Ziegenhein, Mayor, who heartily welcomed the Association to St. Louis.

Dr. Woodson then introduced Dr. C. M. Starkloff, Health Officer of the City of St. Louis, who on behalf of the Department of Health addressed the Association as follows:

Mr. President, Ladies and Gentlemen:

St. Louis has entertained many distinguished gatherings, but it has never entertained a more distinguished gathering than this, which I have the honor in the name of the Health Department, to welcome to the future great city of St. Louis. It is in keeping with the spirit of the age, which has prompted this gathering of representative men, that the gentlemen should meet, not for personal or individual aggrandizement, but for the loftier purpose of extending the range of medical knowledge and for the alleviation of human suffering throughout this continent. What may not be accomplished by these meetings and the forceful men here represented? May there be as the result of your deliberation upon all the important topics submitted to you for consideration, not only the renewal of personal friendship, but a just appreciation of the demands of the age upon our profession. I cannot help but believe that this body of eminent physicians from all parts of the United States has even a greater mission than the laudable one of teaching knowledge to its students. Gentlemen, does this not indicate that benevolence and philanthropy are no longer limited by city, state or country boundaries, but are as broad and universal as humanity itself?

I extend to the gentlemen of this Association a hearty invitation to visit the public institutions in charge of the Health Department, and I beg to assure you, gentlemen, that you will receive all the courtesy for which St. Louis is so justly celebrated. And, Mr. President and Gentlemen, while you have as your hosts the immediate members of our profession, who are among our most honored and respected citizens, I beg to assure you that the Board of Health deems itself honored in your having selected St. Louis as your place of meeting and we hope to make your meeting so pleasant and profitable that you will return with the most pleasant remembrances of St. Louis. You will remember that St. Louis is the city of Associations, and I hope you will have your Executive Committee again select it as the place of meeting.

I thank you for your courteous attention.

The President introduced Dr. C. H. Hughes, of St. Louis, who welcomed the Association on behalf of the medical profession, in the following language:

Mr. President and Gentlemen:

It goes without saying that I am glad to meet you. It is not for myself alone that I have to welcome you upon this occasion, but it is in behalf of the profession of the city of St. Louis, our common profession, that profession which has done so much for the welfare of mankind and whose ministrations fall upon the indifferent as well as those who are gratefully appreciative. In behalf of that great profession, which knows what merit is, I take especial pleasure in welcoming you here to-day. I welcome you in their behalf as the representatives of the highest department of medical endeavor. You work, gentlemen, upon the keystone of that great scientific arch which has been and which is now doing so much for the welfare of the world. Every stone secured from the researches of science has been skillfully worked in the arch which we build for the welfare of humanity, and ours is the keystone of that arch. You will recall, gentlemen, that it was Grotius who said that the care of the human mind is the noblest branch of medicine. As time goes on and the work of the medical profession becomes better appreciated, the understanding is clearer of what neurological and psychological and psychiatric science has done for the welfare of humanity and the salvation of the race. In olden times when the priests were found at the temple feeding the sick, even they were appreciated, but, gentlemen, I address a body whose aim is to minister to the ills of the human soul, to correct the untoward environment and ward off the untoward influences that operate upon the human mind that humanity may live and accomplish its destiny and that the nations may become great upon the face of the earth. It was Macbeth, interrogating his physician, who asked the significant question, "Canst thou minister to a mind diseased?" The physician of that time could not answer that question. His conception of the province and potency of medical art was to "throw physic to the dogs." But modern psychiatry has answered that question. Gentlemen, you are the representatives of those who answered that question. It was in your department of medical endeavor that the insane person was first recognized as a friend and

brother. It was, among others, our own Benjamin Rush, over whose grave no national monument yet stands, to the discredit of this country, that answered that question, that came to the rescue of the mind diseased, that recognized the insane person, not as fiend-possessed, the victim of the gods, the victim of a penalty, but as a friend and brother, diseased and requiring sympathetic attention. It is to Schroeder Vanderkolk and our own Rush that the world is indebted for the fact that the insane were unhackeled and went forth in the free sunlight of heaven as sick men deserving commiseration and unworthy of the epithets heaped upon them even by the clergy of that day. To our profession, our department of medical endeavor, the world is indebted for its better understanding of the nature, possibilities and capabilities of the human mind and the influences of modern progress. Thoughtful and observant men, studying the history of the nations and the decadence of the ages before them, have taught the people in this modern day when we live under the influences of over-pressure, that the care of the human mind is the noblest branch of medicine, and without its proper care no nation can expect ever to develop to its fullest and highest degree. Another proof of the influence of American psychiatry, American psychology and American neurological research, upon the minds of the American people, is evident to-day in the fact that we are sitting here in the midst of a crisis like the present deliberating how to make men stronger, deliberating how to develop more Sampsons and more Deweys, able to maintain their equipoise and their mental tranquillity and sustain the power of American arms in the greatest of crises and grandest of human trials. We have the evidence of the impress of your work in this fact, that we can sit here to-day, tranquil students of science, endeavoring to carry out our accustomed work, to accomplish what we have set out to do. Notwithstanding the fact that the nation is engaged in war and our enemies on the other side are excited and demonstrative, we are calm, tranquil, deliberate and determined. The world has learned, from the influence of psychological science upon the American people, which has permeated the press and which has now become public property, that the American people are a tranquil people, a determined people, a valorous people, and notwithstanding that they are called "nervous" across the water, they are not so excitable that they lose their heads in any great crisis, as was shown the other day at Manila by our own Dewey when he put an end to Spanish domination in the Philippines.

Gentlemen, I am glad personally to meet you. I am glad of the assurance of our distinguished Mayor that you are to be safe during your stay with us. I am sure you will be here at the next meeting, but it is a consolation to know that the first in authority in this great city is going to take care of us. Again, I welcome you cordially in behalf of the profession of the city. I could only reiterate all that has been said.

President Bucke responded as follows:

Mr. Mayor and Gentlemen:

In the name of the Association I thank you cordially for your hearty welcome to your city. It is not the first time we have met here. We know something of St. Louis from former experience. It is just twenty-one years

ago this month that I attended a meeting of this Association in this city. We were welcomed heartily then as now by your Mayor. Where I sit now was Dr. Nichols. Dr. Nichols has gone, the Mayor has gone, and of those who sat in that convention most are gone. However, they have been worthily replaced and the Association is as much alive or more alive than ever.

We thank you, gentlemen of St. Louis, most cordially for your welcome here.

Letters were read by the Secretary from Honorary members, Drs. V. Parant, Jules Morel, and René Semelaigne.

The Secretary also read letters of regret from Drs. Geo. H. Rohé, D. R. Brower, S. B. Lyon, Edward Cowles, J. T. Searcy, H. P. Stearns, G. Alder Blumer, W. W. Godding, C. W. Pilgrim, and others.

On motion of Dr. Burr the members of the profession in St. Louis and vicinity, the members of State Boards, the managers of hospitals, the trustees of charitable institutions and others especially interested in the work of the Association is engaged were invited to attend the sessions and take part in discussions.

A recess was then taken for the purpose of registration.

The following members were present during the whole or a portion of the session:

- Allen, H. D., M. D., Superintendent Invalid's Home, Milledgeville, Ga.
- Allison, Henry E., M. D., Medical Superintendent Matteawan State Hospital, Fishkill Landing, N. Y.
- Bannister, Henry M., M. D., (late Assistant Physician Illinois Eastern Hospital, Kankakee, Ill.), Chicago, Ill.
- Beemer, Nelson H., M. D., Medical Superintendent Mimico Asylum for the Insane, Toronto, Ontario.
- Brush, Edward N., M. D., Medical Superintendent Sheppard and Enoch Pratt Hospital, Towson, Md.
- Bucke, R. M., M. D., Medical Superintendent Asylum for the Insane, London, Ontario. (*President.*)
- Burgess, T. S. W., M. D., Medical Superintendent Protestant Hospital for the Insane, Montreal, Quebec.
- Burr, C. B., M. D., Medical Director Oak Grove Hospital, Flint, Mich. (*Secretary.*)
- Christian, E. A., M. D., Medical Superintendent Eastern Michigan Asylum, Pontiac, Mich.

- Cook, Geo. F., M. D., Superintendent Oxford Retreat, Oxford, Ohio.
- Dent, Emmet C., M. D., Medical Superintendent Female Department Manhattan State Hospital, Ward's Island, N. Y.
- Dewey, Richard, M. D., Physician in Charge Milwaukee Sanitarium, Wauwatosa, Wis. (*President, 1896.*)
- Drew, Chas. A., M. D., Assistant Physician Medfield Hospital for the Insane, Medfield, Mass.
- Eastman, B. D., M. D., (formerly Medical Superintendent Kansas State Asylum), Topeka, Kans.
- Edwards, Wm. M., M. D., Medical Superintendent Michigan Asylum for the Insane, Kalamazoo, Mich.
- Eskridge, J. T., M. D., Denver, Colo.
- Everts, Orpheus, M. D., Medical Superintendent Cincinnati Sanitarium, College Hill, Ohio.
- Eyman, H. C., M. D., Medical Superintendent Cleveland State Hospital, Cleveland, Ohio.
- Gardner, A. M., M. D., Medical Superintendent Napa State Hospital, Napa, Cal.
- Gilman, H. A., M. D., Medical Superintendent Iowa Hospital for the Insane, Mt. Pleasant, Ia. (*Vice-President-elect.*)
- Gordon, W. A., M. D., Medical Superintendent Northern Hospital for the Insane, Winnebago, Wis.
- Gundry, R. F., M. D., Richard Gundry Home, Catonsville, Md.
- Hancker, Wm. H., M. D., Medical Superintendent Delaware State Hospital, Farnhurst, Del.
- Harrington, Arthur H., M. D., Physician Asylum for Insane Criminals, Bridgewater, Mass.
- Heyman, Marcus B., M. D., Assistant Physician Manhattan State Hospital, Central Islip, L. I.
- Hill, Charles G., M. D., Attending Physician Mt. Hope Retreat, Baltimore, Md.
- Hill, Gershom H., M. D., Medical Superintendent Iowa Hospital for the Insane, Independence, Ia.
- Hoyt, Frank C., M. D., Medical Superintendent Iowa Hospital for the Insane, Clarinda, Ia.
- Hughes, Charles H., M. D., (formerly Medical Superintendent State Lunatic Asylum, No. 1, Fulton). (*Editor Alienist and Neurologist.*) St. Louis, Mo.

- Hurd, Arthur W., M. D., Medical Superintendent Buffalo State Hospital, Buffalo, N. Y.
- Hurd, Henry M., M. D., (formerly Medical Superintendent Eastern Michigan Asylum), Baltimore, Md. (*President-Elect.*)
- Hutchings, R. H., M. D., Assistant Physician St. Lawrence State Hospital, Ogdensburg, N. Y.
- Kilbourne, Arthur F., M. D., Medical Superintendent Rochester State Hospital, Rochester, Minn.
- Lane, Edward B., M. D., Superintendent Boston Lunatic Hospital, Austin Farm, Mass.
- Lyman, William B., M. D., Medical Superintendent State Hospital for the Insane, Mendota, Wis.
- Mabon, William, M. D., Medical Superintendent St. Lawrence State Hospital, Ogdensburg, N. Y.
- Macy, William Austin, M. D., Medical Superintendent Willard State Hospital, Willard, N. Y.
- Macdonald, Alexander E., M. D., General Superintendent Manhattan State Hospital, Ward's Island, N. Y.
- Mead, L. C., M. D., Medical Superintendent South Dakota Hospital for the Insane, Yankton, S. D.
- Mink, Arthur E., M. D., St. Louis, Mo.
- Murphy, P. L., M. D., Medical Superintendent State Hospital, Morganton, N. C.
- Orth, H. L., M. D., Medical Superintendent Pennsylvania State Lunatic Hospital, Harrisburg, Pa.
- Palmer, Harold L., M. D., Assistant Physician Utica State Hospital, Utica, N. Y.
- Powell, Theophilus O., M. D., Medical Superintendent State Lunatic Asylum, Milledgeville, Ga. (*President, 1897.*)
- Punton, John, M. D., Kansas City, Mo.
- Robinson, J. F., M. D., Medical Superintendent Asylum No. 3, Nevada, Mo.
- Rogers, Jos. G., M. D., Medical Superintendent Northern Indiana Hospital for the Insane, Longcliff, Logansport, Ind.
- Runge, E. C., M. D., Superintendent City Asylum, St. Louis, Mo.
- Russell, James, M. D., Medical Superintendent Asylum for the Insane, Hamilton, Ont.

- Smith, S. E., M. D., Medical Superintendent Eastern Indiana Hospital for the Insane, Richmond, Ind.
- Stathers, W. E., M. D., Medical Superintendent West Virginia Hospital for the Insane, Weston, W. Va.
- Stearns, Wm. G., M. D., Medical Superintendent Illinois Eastern Hospital for the Insane, Hospital, Ill.
- Stone, Barton W., M. D., (formerly Medical Superintendent Western Kentucky Lunatic Asylum), Morningside, Nashville, Tenn.
- Thombs, P. R., M. D., Medical Superintendent Colorado State Insane Asylum, Pueblo, Col.
- Tomlinson, H. A., M. D., Medical Superintendent St. Peter State Hospital, St. Peter, Minn.
- Vallée, Arthur, M. D., Medical Superintendent Quebec Asylum for the Insane, Quebec.
- Wade, J. Percy, M. D., Medical Superintendent Maryland Hospital for the Insane, Catonsville, Md.
- White, M. J., M. D., Medical Superintendent Milwaukee Hospital for the Insane, Wauwatosa, Wis.
- Winslow, F. C., M. D., Physician Superintendent Illinois Central Hospital for the Insane, Jacksonville, Ill.
- Woodbury, Chas. E., M. D., Inspector of Institutions State Board of Lunacy and Charity, Boston, Mass.
- Woodson, C. R., M. D., Medical Superintendent State Lunatic Asylum No. 2, St. Joseph, Mo.

Other visiting Physicians and guests of the Association were as follows:

- Dr. L. V. Guthrie, Superintendent Second Hospital for the Insane, Spencer, W. Va.
- Dr. M. C. Starkloff, Health Commissioner, St. Louis, Mo.
- Dr. E. L. Standlee, President State Board of Health, St Louis, Mo.
- Hon. L. C. Christian, Member Board of Managers, Asylum No. 2, St. Joseph, Mo.
- Dr. E. M. Wiley, Superintendent Eastern Insane Hospital, Lexington, Ky.
- Dr. W. C. Ussery, St. Louis, Mo.
- Dr. W. F. Beutler, Superintendent Asylum for the Chronic Insane, Wauwatosa, Wis.

Hon. C. L. Stonaker, Secretary Board of Charities of Colorado.
Dr. W. O. Krohn, Psychologist Illinois Eastern Hospital,
Hospital, Ill.

Dr. I. N. Love, St. Louis, Mo.

Hon. Samuel W. Hopkinson, Chairman of the Board of Trustees
Danvers Lunatic Hospital, Danvers, Mass.

Dr. C. T. Wilbur, Superintendent School for the Feeble Minded,
Kalamazoo, Mich.

Dr. Geo. W. Malsbary, Cincinnati, Ohio.

The Association reconvened at 11:40 a. m.

The President appointed Dr. Charles P. Bancroft, Concord,
N. H.; Dr. T. J. W. Burgess, Montreal, Quebec; and Dr. P. L.
Murphy, Morganton, N. C.; as a committee to nominate officers
of the Association for the ensuing year.

The address of the President, "Surgery Among the Insane in
Canada," was then read.

Dr. Richard Dewey: We, as an Association, have listened frequently to
the Doctor's addresses and always with interest, whether upon subjects of a
somewhat speculative or theoretical nature, which nevertheless were of
importance and of practical use in their bearing upon our professional labors,
or when he has taken, as upon this occasion, a practical subject which is of
every day immediate interest. I desire to move a vote of thanks to the
President for his valuable address on the subject he has chosen.

The motion was placed before the Association by Vice-Presi-
dent Hurd and unanimously prevailed.

The President replied:

Gentlemen: I wish to say to you that I thank you for this still greater
extension of the courtesy which you have accorded me for so many years.

Dr. Richard Dewey introduced Dr. C. T. Wilbur, Superinten-
dent of the School for Feeble-Minded Children, Kalamazoo,
Mich., who was on motion invited to attend the sessions and
participate in the proceedings of the Association.

SECOND SESSION.

The Association was called to order by the President at 3:15
p. m.

The following papers were read:

"Insanity Defined on the Basis of Disease," C. H. Hughes,
M. D., St. Louis, Mo.

"The Scientific Border-line Between Sanity and Insanity,"
E. C. Runge, M. D., St. Louis, Mo.

The papers were discussed by Drs. Henry M. Hurd, Tomlinson, Russell, Eskridge, Burr, Dewey, and in closing, by Drs. Runge and Hughes.

A paper on "Hospital Libraries," was read by Dr. Henry M. Bannister, Oak Park, Ill., and was discussed by Dr. Edward N. Brush.

Adjourned.

THIRD SESSION.

The Association was called to order by the President at 8:15 p. m.

The following papers were read.

"The Judicious Training of Neurotic Children an Aid to the Prophylaxis of Insanity," D. R. Brower, M. D., Chicago; read by Dr. William M. Edwards.

"A Study of the Natural History of the Clinical Manifestations and Pathological Changes of Diseases of the Lungs Among the Insane," H. A. Tomlinson, M. D., St. Peter, Minn.

The papers were discussed by Drs. H. M. Hurd, Lyman, Hill, and by Dr. Tomlinson in closing.

The following papers were then read:

"Does the Loco-Weed Produce Insanity," C. W. Pilgrim, M. D., Poughkeepsie, N. Y.; read by Dr. E. N. Brush.

"Thyroids in Insanity," B. W. Stone, M. D., Nashville, Tenn.

The discussion was participated in by Drs. Burr, Bancroft, Hill, Burgess, Brush, Mabon, H. M. Hurd, Edwards, and by Dr. Stone in closing.

Adjourned.

ST. LOUIS, MAY 11, 1898.

FIRST SESSION.

The meeting was called to order by the President at 10 a. m.

The Secretary reported that the Council had recommended the following applications for membership:

For Honorary Membership.—James M. Buckley, D. D., LL. D., Morristown, N. J.

For Active Membership.—Doctors C. F. Applegate, Clarinda, Ia.; T. C. Biddle, Osawatomie, Kans., Percy Bryant, New York, N. Y.; Gustave Arthur Chilgren, Yankton, S. D.; Henry W. Coe, Portland, Ore.; Geo. C. Crandall, St. Louis, Mo.; Rob't

Dameron, Hastings, Neb.; J. T. Eskridge, Denver, Colo.; W. A. Gordon, Winnebago, Wis.; Eliot Gorton, Morris Plains, N. J.; Frederick O. Jackman, Bloomington, Ill.; J. B. Hamilton, Chicago, Ill.; Marcus B. Heyman, New York, N. Y.; George F. Keiper, Norfolk, Neb.; Paul W. Kirkpatrick, Nashville, Tenn.; Chas. B. Mayberry, Danville, Pa.; Arthur E. Mink, St. Louis, Mo.; William Noyes, Mattapan, Mass.; John Punton, Kansas City, Mo.; George A. Smith, Central Islip, Long Island, N. Y.; William G. Stearns, Hospital, Ill.; Frank T. Stevens, Mt. Pleasant, Ia.; Ira VanGieson, New York, N. Y.; Max E. Witte, Mt. Pleasant, Ia.; B. M. Worsham, Austin, Tex.

For Associate Membership.—Doctors Eveline P. Ballintine, Rochester, N. Y.; Albert M. Barrett, Independence, Ia.; Fred. B. Colby, Rosindale, Mass.; George Milton Bradfield, Philadelphia, Pa.; Joseph C. Clark, Catonsville, Md.; Samuel Dodds, Anna, Ill.; John C. Felty, Trenton, N. J.; Arthur V. Goss, Taunton, Mass.; R. R. Gurley, Worcester, Mass.; Arthur MacGugan, Kalamazoo, Mich.; Andrew J. McNamara, Cleveland, Ohio; Peter J. Mallon, Morris Plains, N. J.; Frederick J. Mann, Poughkeepsie, N. Y.; Henry Roland Niles, Flint, Mich.; Herman Ostrander, Kalamazoo, Mich.; Thomas P. Prout, Morris Plains, N. J.; Emma Putnam, Poughkeepsie, N. Y.; Hubert Richardson, Baltimore, Md.; William L. Russell, Willard, N. Y.; Elbert M. Somers, Jr., Ogdensburg, N. Y.; J. O. Stranahan, Poughkeepsie, N. Y.; Sidney D. Wilgus, Ogdensburg, N. Y.

The Chair directed that a ballot be taken and appointed as tellers, Drs. Christian and Edwards. The result of the ballot showed that a majority of votes of members present had been cast for each of the above applicants and they were declared members of the Association.

It was reported through the Secretary that the Council recommended to the Association that dues for Active members for the coming year be placed at \$5, and for Associate members at \$2.

Which report was on motion accepted and adopted.

The Secretary reported that the Council recommended to the Association the appointment of a Committee on Necrology.

On motion this recommendation was accepted and adopted.

Moved by Dr. Brush that the report of the Council upon necrological record be referred to the Secretary.

Which motion prevailed.

The Secretary requested that the chair appoint a committee of three, of which Dr. J. W. Babcock be chairman, to undertake the work of preparing a necrological record. In compliance with the request the Chair appointed as such committee, Drs. Babcock, Brush and Burr.

The following report on the "The Improvement in the Medical Service of Prisons," was read by Dr. Allison of the committee:

To the American Medico-Psychological Association:

Your committee on Improvement in the Medical Service of Prisons reports that the majority of penal institutions in the United States and Canada, variously designated as prisons, reformatories and penitentiaries, have attached to them, as a rule, non-resident medical officers. The duties of such positions are usually discharged by physicians in general practice, often by young men with no especial experience who consider their relations to such penal institutions as secondary and subordinate to the requirements of their private affairs. Their terms of office are frequently temporary and the work actually required is often either occasional or of an irregular character. The emoluments, in most instances, are so meagre as not to command the services of well qualified and experienced practitioners. In instances where daily visits are regularly made, or resident physicians are employed, the powers conferred upon them by statute are so limited that their scope is not sufficiently comprehensive nor their authority commensurate with a free and proper discharge of their duties. In medical matters where full control should be permitted to the professional man, he is often limited by the authority of some higher lay official to whom his independent action is subordinated. His recommendations for this reason often fail to have effect. The result is that medical men in prisons, though they have a wide field for investigation and study, are hampered by restrictions which prevent their obtaining a full knowledge of the true mental and physical condition of convicts under their charge. A few excellent and careful observers are found in such institutions, but instances are exceptional.

In many states, through political influence, the tenure of office is so uncertain that really good men are not found in the service, appointments being made by reason of party affiliation rather than because of worth or superior medical qualifications. The frequent changes thus produced are detrimental to the service.

One obstacle to progress in the study of the medical and psychological aspect of insanity is the absence of case histories, and seldom are any extended notes ever made upon the mental condition of prisoners. Very little investigation is undertaken for the purpose of removal of insane convicts to a state hospital, or to determine the question of their responsibility in cases of serious crimes or as an index to show the presence of degenerate types among them.

Your committee believes that the study of questions relating to crime and its prevention has developed large opportunities for research in directions which pertain to the individual and are apart from methods which are solely

punitive. It is not the nature of the crime, the length of sentence imposed, the amount of labor performed in prison, that is of the most importance, but it is the person himself, and the best manner of dealing with him. The profession has come to realize that there is a vast amount of material in our penal institutions that is deserving of study—the grading of criminals into classes of first and second offenders, the habitual criminal or hardened recidivist, *et cetera*—while a step in the right direction is not enough and the chief factor to be determined is what causal relation does the individual bear to crime. Has the prisoner a physical organization, or such a morbid psychological constitution as to predispose him to vicious and criminal acts? It is important to know whether the prevalence of insanity, imbecility, epilepsy, the neurophatic diathesis or degenerative traits are responsible in any large measure for crime, and if so, what is the remedy?

In furtherance of this work it is essential that medical officers in all penal institutions shall have specific duties charged upon them by law, which they can perform apart from the direction of a warden or a board of prison management. They should have greater independence in the performance of their professional work. A report should be made by a medical officer of the mental condition of a convict on his admission to prison in order that the advance of penology may be promoted and the psychology of crime better studied and any facts bearing upon mental or physical degeneration which characterize the criminal class should from time to time be subsequently tabulated. The duties of a prison physician should be beyond examining and prescribing for current bodily ills and should be so amplified as to embrace all physical and mental abnormalities. The status of the prison physician should be raised and his duties be enlarged and defined by law. He should be required to have some knowledge of the treatment of the insane, and in addition should be prepared for prison work by service in a general hospital, or by some years of general practice. The government of Belgium in May, 1891, inaugurated a medico-psychological service in the penal institutions of that country by the appointment of three qualified alienists, to whom was assigned the duty of examining into the mental condition of prisoners. This service had its origin in an investigation into the affairs of the Central prison at Louvain, where a dozen men were found suffering from insanity and whose condition had been unsuspected. It is quite probable that similar conditions exist in this country and call for a remedy.

Your committee would report therefore the following conclusions:

That medical officers connected with all penal institutions should possess an experience in a general hospital, or, should have manifested a fitness for the position by a successful general practice, and should have had in addition some experience in the treatment and care of the insane.

That the compensation for such service should be adequate to secure competent and well qualified men; that the position should be a reasonably permanent one, dependent upon merit and efficiency, and not upon political influence or personal preference; that the duties of such physicians be so defined by law that in the discharge of their professional work, they can exercise an independent judgment and possess an authority sufficient to control their medical functions.

That there shall be required to be kept at each prison, records made upon admission, of all mental or physical peculiarities or actions, and that entries shall be made from time to time of any additional facts or changes in condition, and that such case-reports shall be in permanent form and at all times accessible to the proper authorities.

That so far as practicable, special hospitals for insane criminals be erected as adjuncts to the courts and prisons to which insane offenders may be transferred, and, without regard to length of terms of sentence, be detained therein until recovered or otherwise so improved in mental and physical condition as to be in proper condition for release.

That the attention of the National Prison Association be directed to this subject with a view to securing its co-operation in providing better facilities for the detection and proper custody of the insane in the prisons of the United States and Canada.

Your committee have thus formulated this brief report believing that measures for the repression of crime are most directly concerned with the man and his heredity, his physical and mental constitution and environment, realizing that very many changes in existing conditions should be brought about and that reform along these lines should be instituted, asserting that it has a professional right to call attention to the needs of a higher grade of medical service for the insane criminal, and also maintaining that the authority of the prison physician himself should be broadened, and that he should be vested with enlarged and more independent powers.

J. B. CHAPIN,
C. K. CLARKE,
H. E. ALLISON,

Committee.

Dr. H. M. Hurd: Mr. President, I desire to make a motion, or rather three motions, for the purpose of convenience.

First, That the report be accepted and adopted.

Second, That the committee be continued and instructed to correspond with the National Prison Association for the purpose of securing co-operation on the part of that organization; and

Third, That this report be published in the *Journal of Insanity*, and that copies be sent to all members of the Association throughout the United States and Canada.

In making these motions, I want to express my conviction that we have not for a long time inaugurated any movement which is likely to be productive of more good than that inaugurated last year in the appointment of this committee. It seems to me most important that men who know about insanity and the relations of the criminal insane to society, should speak, and I am very glad that the utterance has been in this plain, decided way.

The motion unanimously prevailed.

Dr. Charles P. Bancroft, for the Nominating Committee, reported the selection of the following officers for the ensuing year:

For President, Dr. H. M. Hurd, Baltimore, Md.

For Vice-President, Dr. H. A. Gilman, Mt. Pleasant, Iowa.

For Secretary-Treasurer, Dr. C. B. Burr, Flint, Mich.

For Auditors, Dr. H. A. Tobey, Dr. C. G. Hill.

For Councilors for Three Years, Dr. J. W. Babcock, Dr. C. W. Page, Dr. J. P. Wade and Dr. L. C. Mead.

On motion, the report was unanimously adopted.

The following report of the condition of the American Journal of Insanity was read:

St. Louis, Mo., May 11th, 1898.

To the American Medico-Psychological Association:

Gentlemen:—In behalf of the editorial committee of the American Journal of Insanity, I desire to report upon the management of the Journal during the past year. The committee organized early in June at a meeting in New York city and decided to move the office of publication to Baltimore, and to publish it under the auspices of the Johns Hopkins Press, the publication agency of the periodicals published by the Johns Hopkins University and the Johns Hopkins Hospital. The contract which was made with the Press was a most favorable one to the Journal, and by its terms provided for the mailing of the Journal, the collection of subscriptions and the management of the advertising. It was also decided at that meeting to push in every legitimate manner the matter of advertising. An entirely new dress for the Journal was decided upon and certain changes in the arrangement of the matter. As a result of this action four numbers of the Journal have been placed in your hands and we think that they speak for themselves. Typographically, I have no hesitation in saying that the Journal compares most favorably with any medical publication in any land. The financial results are, upon the whole, satisfactory. We close the year with \$198.07 in the treasury, and \$808.65 for open accounts and miscellaneous sales, all of which are good, giving a balance in our favor of \$501.72. This does not include old accounts, amounting to \$820.00, which are classed as "doubtful" or "good," but which are not readily collectable. We have in stock 200 sets of Vol. 54 and some individual numbers. Upon the whole, the record for the year is one of prosperity. Through the kindness of friends, we have secured additional advertising. I would renew the appeal to the members of the Association to assist us in this matter. There are many advertisers who ought to be brought into personal relations with institutions for the insane, through the pages of the Journal. If sufficient advertising can be secured, it is hoped that the price of the Journal to subscribers may be reduced to \$4 eventually. We also desire additional subscribers and I hope to see every member of the Association thus enrolled. I am glad to say that our subscription list is growing and during the coming year I hope for substantial gains both at home and abroad.

I submit vouchers for all expenditures for the consideration and scrutiny of the auditors.

In conclusion, I beg leave to express my thanks to all members who have assisted us by articles or by soliciting advertisements, and also to my colleagues on the editorial committee who have labored earnestly and enthusiastically in behalf of the Journal.

Very Respectfully,

HENRY M. HURD.

Question: What is the circulation ?

Dr. Hurd: We print 800 copies.

On motion, the report was accepted.

The following report from the Auditors was submitted by Dr. P. L. Murphy:

ST. LOUIS, MO., May 11th, 1898.

To the American Medico-Psychological Association:

The accounts and vouchers of the Treasurer of the American Medico-Psychological Association have been carefully examined and found to be correct in every particular. The books are neatly and properly kept, the vouchers showing the expenditures in the minutest detail. The Association is to be congratulated on the high business qualifications of the Treasurer.

The Secretary read the following amendment to the Constitution, proposed at the last annual meeting of the Association, by Dr. Blumer, and moved its adoption: "Insert before the words, 'the only persons eligible,' in Article V, the following: 'Physicians, who by their professional work or published writings have shown a special interest in the care and welfare of the insane, are eligible to Active membership.'"

The amendment was unanimously adopted.

The reading of papers was resumed.

"Subconscious Homicide and Suicide: Their Physiological Psychology," C. P. Bancroft, M. D., Concord, N. H.

"Insanity and Homicide," H. E. Allison, M. D., Fishkill Landing, N. Y.

The papers were discussed by Drs. Hill, Eakridge, Tomlinson, Russell, Woodson, Harrington, Robinson, Eastman, Brush, and by Drs. Bancroft and Allison in closing.

Adjourned.

SECOND SESSION.

The meeting was called to order at 8:30 p. m., with President Bucke in the chair.

The annual address, on "The Mutual Relation of the Alienist and Neurologist in the Study of Psychiatry and Neurology," was delivered by J. T. Eakridge, M. D., Denver, Colo.,

Dr. Rogers: Mr. President, I rise on behalf of the Association to move a vote of thanks to Dr. Eskridge for his excellent address and for the carefully considered and useful suggestions.

The motion prevailed unanimously.

Presentation of testimonial to Dr. Richard Dewey.

The President: My dear Dr. Dewey, I have the real pleasure and honor, on behalf of the Association, to present you with this pitcher, which we offer you as a mark of the very high esteem in which we hold you; we wish at the same time to express our deep sense of appreciation of the service you did us for three years as editor of the *American Journal of Insanity*. This work you assumed and carried out ably and efficiently in spite of your other onerous employments. The Association feels that the work was performed by you at great sacrifice of energy which was otherwise needed by you and in spite of that fact was done in a manner which excited our deep admiration.

In offering you this inadequate expression of our regard, we have also in mind your past services to our specialty as Superintendent at Kankakee and as President of this Association in 1896. (Applause.)

The testimonial was a handsome pitcher of repoussé silver, suitably inscribed.

Dr. Dewey responded as follows:

Mr. President and Members of the Association:

It is often said that words are inadequate, on an occasion like this, to express the feelings of the heart. I think, however, I can in some measure give utterance to my feelings to-night. I noticed, when I received the order of exercises of the meeting, the number upon the program which is now being carried out, and I at once felt that I might have to be carried out myself. (Laughter.) I felt as though I would like to be on my way to Cuba to join the army or navy, I would not care much which for, under the circumstances, it appeared to me as difficult as meeting a man with a gun. I felt in a measure subject to abnormal manifestations, hallucinatory in their character. Their seemed to be voices in my ear saying: "What have you done for the *Journal of Insanity*? and the answer, "Nothing to speak of." "What have you ever done for the American Medico-Psychological Association that it should heap coals of fire upon your head?" Echo answers, "Nothing, indeed." And bearing the name of an admiral does not help the matter in the least. (Applause.) I felt that imperative conceptions and delusions were getting the best of me and that I was perhaps a proper subject for examination on the part of my brethren, and possibly that finding the case incurable, it might be as well to kill with kindness at once. At any rate, I accept the treatment and take the medicine with the best grace at my command.

Speaking seriously, it seems to me that an explanation of the undeserved kindness and partiality shown to myself is to be found in the warmth, strength and firmness of the tie that binds us together as an Association. We all occupy positions calculated in an especial manner to call out all the patience, forbearance, loyalty, generosity and good will of which we are

capable. We are drawn one to another in keenest sympathy and appreciation by an especial knowledge each one has of the toils and trials of the others—toils and trials like those of no other body of men or physicians, which only they can understand who are charged with the welfare of fellow beings, sick not only in body but in mind. Our duties are not only medical and scientific, but humanitarian. I believe all the men who have won fame and honor in the care of the insane have been men of large and noble heart. I feel as if in this instance a part of your superabundant good will had been diverted toward myself, and although I may not deserve it, I accept it with deep thankfulness. (Applause.)

Dr. Eskridge. Mr. President and Members of the Association: The physicians of Denver have asked me to urge you very cordially to attend the meeting of the American Medical Association in Denver on the seventh of June.

Dr. Hughes. Mr. President: Many of us go to Denver, and I would like to see all go and meet with the Neurological Section of the Association so that we may come closer together, as suggested in Dr. Eskridge's paper. Why, gentlemen, neurology is psychiatry; psychiatry is but a department of neurology, of neuriatry, because you cannot manage the mind diseased without getting at the nervous system. And as Chairman of the Neurological Section of the American Medical Association, I now take this occasion to ask and insist upon the members of this Association taking part in our proceedings in Denver. (Applause.)

Dr. Woodson. Mr. President: I am authorized to state that the courtesies of the St. Louis Club are extended to the members during their stay in the city, and members desiring to take advantage of it may do so by securing cards of introduction from Dr. Hughes. Also, the privileges of the libraries, mercantile and public, may be secured in the same manner.

Adjourned.

THURSDAY, May 12, 1898.

FIRST SESSION.

The Secretary presented the following report of the Council:

The Council would respectfully recommend the following for Active membership in the Association: Dr. W. E. Stathers, of Weston, W. Va.; and Dr. Florence Hull Watson, of Norristown, Pa.

The Council has fixed upon New York as the next place of meeting, and has given the Secretary some discretion in the matter of appointing the date. The date is not determined, but will be announced as early as practicable, and the convenience of members and the times of other society meetings will be taken into consideration.

The Committee of Arrangements appointed for the next meeting is composed as follows: Dr. Peter M. Wise, Dr. A. E. Macdonald, Dr. B. Sachs, Dr. Samuel B. Lyon and Dr. Frederick Peterson.

On motion, the report was adopted.

Dr. Edwards. Mr. President and Gentlemen: Under the Constitution, there is some apparent irregularity about the ballot yesterday and I would therefore move you, that the Secretary be instructed to cast the ballot on the names passed upon yesterday for membership, and also upon the officers nominated yesterday.

Dr. Brush: I do not understand the irregularity.

Dr. Edwards: The irregularity is that the names of candidates must stand over and be voted upon at a session subsequent to that at which the names are presented by the Council.

The motion was seconded by Dr. Murphy and carried.

In accordance with this action, a ballot was cast for officers and for the candidates for Honorary membership, Active membership and Associate membership, balloted upon the previous day, and all were declared elected.

Dr. Murphy, on behalf of the Auditors, reported that the accounts of the American Journal of Insanity had been examined and found to be correct.

On motion the report was accepted and adopted.

Report of the Committee on Training Schools:

The Secretary stated that the Chairman, Dr. Cowles, had written that the Committee was not prepared to present a manual but hoped to do so at the next meeting of the Association.

Report of the Committee on After-Care of the Insane:

Dr. Richard Dewey. Mr. President and Gentlemen: The Committee, consisting of Dr. Clark, Dr. Blumer and myself, acted according to instructions given at the last meeting and presented the subject of After-Care of the Insane at the meeting of the National Conference of Charities at Toronto last year. There was a paper read upon that subject in the general session of the conference and quite a good deal of interest was shown in the discussion thereof. A resolution was adopted instructing the conference and the Committee on Insanity to further consider means of organizing for doing after-care work. At the meeting of the National Conference of Charities this year, in New York, an arrangement has been made for a special section meeting to be devoted to that subject, at which Dr. Stedman will read a paper and at which fifteen or twenty men and women of representative character from all parts of the United States and Canada have agreed to speak. I would like to suggest that the Chair appoint as a delegate from the American Medico-Psychological Association, some member who will attend the meeting in May of this year in New York; some delegate other than myself, as I shall go and have charge of the section meeting that has been referred to.

Upon motion the report was accepted and adopted.

The Chair appointed Dr. Brush a delegate to attend the meeting in New York.

The following papers were read:

"Some Remarks on the Relation of Mental Diseases and Surgical Operations, with Report of Forty Cases of Insanity following Surgical Operations," by Richard Dewey, M. D., Wauwatosa, Wis.

The paper was discussed by Drs. H. M. Hurd, Tomlinson, Bancroft, Russell, Bannister, Punton, Woodson, and by Dr. Dewey in closing.

"Asylum versus Hospital," J. Russell, M. D., Hamilton, Ont.

Previous to reading his paper, Dr. Russell made the following remarks:

As you American people are in a somewhat bellicose condition at the present time, I hope that this paper which I am about to read will not prove a *casus belli* between Canada and the United States. I will say, gentlemen, I do not come before you with a message of war, but of good will, and of great sympathy for you in the struggle you are in. (Applause.) I trust further that the struggle will be short, sharp and decisive (applause), and that it will result in the overthrow of oppression and the establishment of liberty, peace and freedom. (Applause.) I trust further that it will result in cementing more than ever the great Anglo-Saxon people in a brotherhood of nations. (Applause.)

"Some New Hospital Buildings," Wm. M. Edwards, M. D., Kalamazoo, Mich.

"State versus County Care for the Insane," B. D. Eastman, M. D., Topeka, Kans.

"Better Care for the Chronic Insane," H. A. Gilman, M. D., Mt. Pleasant, Ia.

Adjourned.

SECOND SESSION.

Upon motion of Dr. Woodson, the Secretary cast the ballot of the Association for the election to membership of Drs. W. E. Stathers, and Florence Hull Watson, and they were declared elected.

The following papers were read:

"The Wisconsin County Care System," W. B. Lyman, M. D., Mendota, Wis.

"Occupation in the Treatment of the Insane," Frank C. Hoyt, M. D., Clarinda, Iowa.

The last six papers read were discussed by Drs. Woodson, Burr, Brush, Runge, Tomlinson, Gilman, Gardner, Gordon, and in closing by Drs. Russell, Edwards and Eastman.

The following paper was then read:

"The Value of Hospital Records," Wm. Mabon, M. D., Ogdensburg, N. Y.

The paper was discussed by Dr. G. H. Hill and Dr. Mabon.
Adjourned.

FRIDAY, May 13, 1898.

FIRST SESSION.

The meeting was called to order at 10:00 a. m. by the Vice-President.

The Chair suggested, in view of the fact that time was so limited, that the reading of papers be confined to twenty minutes, and discussions limited to five minutes, and stated that, with the consent of the Association, he would enforce a rule to this effect.

The following paper was read:

"Practical Methods in Physiological Chemistry," R. H. Hutchings, M. D., Ogdensburg, N. Y.

The paper was discussed by Drs. A. W. Hurd, Harrington, Hughes, Krohn, Bannister and Edwards.

The following paper was read:

"A History of the Insane in America: Shall the Association Have One Prepared?" J. W. Babcock, M. D., Columbia, S. C.
The paper was read by Dr. Brush.

"The Insane of California," A. H. Gardner, M. D., Napa, Cal.

Memorial Notices of—

William Palmer Jones, M. D., by John A. Beauchamp, M. D.
Hugh F. McNary, M. D.

James Olmstead, M. D., by Henry S. Noble, M. D.

R. H. Moffitt, M. D., by H. A. Gilman, M. D.

George Allen, M. D., by Selden H. Talcott, M. D.,
were read by title, and on motion the Secretary was instructed to publish them in the Transactions.

A paper, "Some Forms of Syphilitic Insanity Resembling General Paresis," by C. R. Woodson, M. D., St. Joseph, Mo., was read, and discussed by Drs. Runge, Hoyt, Gundry, Eskridge, Burr, Lane, Tomlinson, and in closing by Dr. Woodson.

The following papers were read by title:

"Psychical Epilepsy in its Medico-Legal Relations," C. H. Hughes, M. D., St. Louis, Mo.

"The Nerve-Cell Changes in Somatic Diseases," Aug. Hoch, M. D., Waverley, Mass.

"A Short Study in Psychic Phenomena," H. C. Eyman, M. D., Cleveland, Ohio.

"The Lesson Taught by a Few Hard Cases," W. E. Dold, M. D., White Plains, N. Y.

"Hospital Treatment for Acute Insanity," A. B. Richardson, M. D., Columbus, Ohio.

"The Boarding-out System in America: Why Not?" G. Alder Blumer, M. D., Utica, N. Y.

"Clinical Resemblances in Neurasthenia, Hysterical Insanity, and Some Forms of Circular Insanity," E. A. Christian, M. D., Pontiac, Mich.

"Ephemeral Mania," T. J. W. Burgess, M. D., Montreal, Quebec.

"Incipient Melancholia: Its Diagnosis, Prognosis and Management," John Punton, M. D., Kansas City, Mo.

The following resolutions offered by Dr. Edwards were unanimously adopted:

St. Louis, Mo., May 18th, 1898.

Resolved, That the thanks of the Association are due and hereby tendered to the Committee of Arrangements, both general and local, for their successful efforts in planning for the work and pleasure of the members and their friends at this meeting.

Resolved, That our most cordial thanks be extended to Mr. C. M. Woodward, Director of the Manual Training School of Washington University, to the Health Department, Hospitals and Libraries of St. Louis, to Mr. Halsey G. Ives, Director of the St. Louis Museum of Fine Arts, to the St. Louis Club, and to the authorities of the Missouri Botanical Gardens for the kind invitations and attentions extended to our Association.

Resolved, That we are indebted to the medical profession of St. Louis for the courteous attention we have received individually and collectively from them during our stay in this city.

Resolved, That we thank Col. H. C. Lewis of the Southern Hotel for the pleasant attention and prompt service we have had in this hotel, which has

contributed in no small degree to the success of our meeting; that we thank the press of St. Louis for their reports of our sessions, and that we especially thank our Presiding Officer and Secretary for their untiring efforts in behalf of the Association.

Dr. A. E. Macdonald. Mr. President and Gentlemen: Before we adjourn it may be proper for me to make a formal report to you that I carried out the assignment as your delegate to the British Medico-Psychological Association, and also to the International Medical Congress. I, as your delegate, was most cordially received at both places, and my principal idea in reporting is that I was asked by the authorities in each case to convey to the Association and its members a very high expression of esteem and regard. (Applause.)

Upon motion of Dr. Burgess, it was unanimously voted that Dr. A. E. Macdonald be the accredited delegate of this Association to the British Medico-Psychological Association and also to the British Medical Association during the coming summer.

Dr. Bucke took the chair and spoke as follows:

Gentlemen: Before adjourning, I wish to thank the Association, not only for electing me President, which I regard as a very high honor indeed, but also and even still more for the great courtesy and kindness with which you have treated me while in office. I have now the very great additional pleasure of presenting to you the President-elect for the next year, Dr. Hurd. (Applause.)

President-elect Hurd spoke as follows:

Gentlemen: It gives me great pleasure to be the recipient of this honor from the Association. Next year will complete the twentieth year of my attendance upon the meetings of the Association, and I think that I can say that I have never been absent from a meeting when I could possibly attend. During the twenty years time, I remember two meetings of the Association which I could not attend. So I regard it as a very great honor that upon the twentieth anniversary of active connection with this body, that I should receive this recognition from you. I bespeak from you all, your earnest co-operation in making the meeting in New York a success.

I thank you most sincerely for the honor you have done me.

Upon motion, the Association adjourned.

C. B. BURR,
Secretary.

FINANCIAL STATEMENT.

RECEIVED.	EXPENDED.
From balance May 4, 1897, \$ 464 94	Printing Vol. 4 of Transactions, \$460 18
Dues from Active Members, 1,069 00	Lithographs, Plates and Illustrations, 180 47
Dues from Associate Members, 186 00	Printing Circulars, Programs and Applications, 40 50
From sale of Transactions, 6 87	Services Stenographer (Baltimore meeting), 80 00
From sale of Blackburn's Autopsies, 1 38	Clerical assistance and Typewriting, 38 18
	Carriage hire and miscellaneous expenses (Baltimore meeting), 7 25
	Janitor's service (Baltimore meeting), 7 00
	Postage on Transactions, Bills, etc., 76 20
	Stationery and Rubber Stamps, 81 85
	Expenses of Secretary to St. Louis to meet with Committee of Arrangements, 44 28
	Telegraphing, 9 89
	Freight and Express, including express on Transactions, 24 72
	Book Case, 12 86
	Balance in Bank May 2, 1898, 770 86
<u>\$1,728 19</u>	<u>\$1,728 19</u>

C. B. BURR,
Treasurer.

PRESIDENTIAL ADDRESS.

SURGERY AMONG THE INSANE IN CANADA.

By R. M. BUCKE, M. D.,

Medical Superintendent Asylum for the Insane, London, Ont.

In addressing you as I have the honor to do to-day as president of this old and honorable Association, I desire to avoid mere theory and speculation, to which, as you well know, I am too much addicted, and speak on some subject of practical interest. And I shall endeavor, as far as in me lies, not only to be practical, but to present such thoughts and facts as may have a direct bearing and influence upon that which we all have at heart—the relief of suffering and cure of disease.

As to the precise subject chosen for my address, I am not sure that I should not offer you some apology for it, and that for two reasons: First, because I read a very brief paper upon it two years ago in Boston, and secondly, because it does not seem, as far as I can judge, a popular topic. My answer to the first objection is that my experience of the subject has more than trebled in the last two years and that what I have to say now will be based on so much broader an induction as to make it greatly more worthy of attention. To the second objection my reply is that, if to the members of the Association the subject is unpalatable that is all the more reason for insisting upon the consideration of it, since, to my mind at least, it is certain that either we or our immediate successors will have to deal with it practically; that we shall not be able long to ignore it; and that for the sake of our own good name, as well as for the sake of our patients, the sooner we take it up and seriously consider it the better.

Before entering upon my own experience I shall refer for a few minutes to that of three other men, namely, Dr. Hall of Victoria, B. C., Dr. Burgess of the Protestant Hospital for the Insane, Montreal, Q., and Dr. Holmes of Chatham, Ont.

Dr. Hall has operated in two cases only; † he reports them as follows: A. B., married woman, aet. 38, youngest child eight years old. At time of operation she had been insane three and a half years. She had been two years and eight months of that time in an asylum in Victoria. She was considered to be a hopeless case. The right ovary was cystic and the left prolapsed; there were tubal adhesions. He removed tubes and ovaries 7th Jan., 1898. Thirteen days after operation she began to improve, thirty-five days after she went home well. She has remained well since. She is at present as well as ever she was and manages her house as before she was insane.

C. D., married woman, aet. 61, several children, a case of delusional mania, was in an asylum eight months. On examination he found erosion of cervix, laceration of perineum, both ovaries cystic. He removed both ovaries and did what was needed besides. The patient at once improved and remained so. So far, however, she is not perfectly well mentally.

Dr. Burgess reports the following three cases:

L. M., admitted July, 1890; hysterical mania of over a year's standing; had frequent epileptiform convulsions, was violent, noisy and destructive; examined by Dr. Gardiner, who found intense irritation of both ovaries. These were removed in October, 1891 (patient had been insane about two years at that time). She improved at once and by the middle of December was well. She was last heard from October, 1892; was then in England; was quite well.

E. H. B., admitted December, 1891, aet. 34, married, three children. A case of suicidal melancholia of fourteen months' standing; examined by Dr. Gardiner in January, 1892. He found endometritis, laceration of cervix, and disease of right ovary. She was operated on in March, 1892. Cured, cervix repaired, right ovary removed. Recovery both mental and physical at once set in. She was discharged recovered and at last accounts was keeping well.

M. A. C., aet. 40, married, seven children. A case of mania of six months' standing, both suicidal and homicidal. Examined in July, 1894, a month after her admission, by Dr. Alloway. He found retroversion of uterus and endocervicitis; patient operated on same month and diseased conditions removed.

† See Canadian Pract., April, 1898.

Improvement both mental and physical set in at once. She was not perfectly well until the end of 1895, that is, sixteen months after operation. She has remained quite well since that date.

Dr. Holmes is an ex-president of the Canadian Medical Association and one of the best general practitioners that I know. Years ago he came to the conclusion that puerperal insanity is nearly always dependent upon some lesion of the generative organs. As early as 1867 he (apparently) cured a case of puerperal mania which had resisted other treatment and threatened to become permanent by relieving surgically a lacerated cervix uteri. I say "apparently" cured because the woman recovered after having been operated upon and the recovery seemed to be due to the operation. Since 1867 Dr. Holmes has operated with a similar result twenty-three times, that is, he has had altogether twenty-four recoveries in puerperal insanity following in every case the removal, by operation, of surgical lesions. Later I shall refer to one of his cases which seems to be particularly instructive on the point of the causation of the insanity by the lesion.

I wish to say further that many of the best men in the profession have, rightly or wrongly, come to think to-day that there is a much closer relation between organic disease of the uterus and its adnexa and insanity than is generally recognized by alienists. I may especially mention in this connection Robert Barnes who, in discussing before the British Gynecological Society a case of mental recovery following operation, said: "If the present case had got into any asylum I believe she would have remained there, for I think it is a great fault in the organization of our asylums that there is no provision for the examination of such cases." And he goes on to say: "There is no reason why a woman in an asylum who is suffering from a uterine complaint should not be attended to whether or not it makes any difference in her mental state." And More Madden gives it as his opinion: "That many women are needlessly and improperly confined in asylums suffering from reflex cerebro-nervous disturbances consequent upon peri-uterine irritation or disease, who might be cured by operative or other local treatment." So Skene in his Medical Gynecology, writing from his point of view, tells us: "How sadly the condition of the reproductive system has been neglected" by asylum physicians, and cites cases of in-

sanity in women in which uterine disease co-existed but had not been looked for or suspected by the alienist. This author, while teaching the probable frequency of utero-ovarian disease in insane women is needlessly troubled about the alleged difficulty in diagnosing it.

I will add in this connection that I was rejoiced to note that Dr. Kellogg, almost alone among the systematic writers on insanity, in his recent exhaustive treatise, fully recognizes the relation existing between utero-ovarian disease and mental alienation and tells us that the result of gynecological treatment within the past few years fully confirms the theory that pelvic disease in women may be and at times is a cause of insanity; and that the removal of the pelvic disease by operation is often followed by relief or cure of the mental alienation. In this declaration of Dr. Kellogg's I discern, or think I do, the dawn of a better day in the writing of text-books on insanity.

But the point I wish to accentuate is that many leading practitioners and gynecologists either strongly suspect or think they know that there exists in insane women a great deal of unrecognized and therefore neglected pelvic disease and that that disease has more or less to do with the causation of the insanity in many if not all of these cases. And they further think that from the point of view of both physical and mental health these utero-ovarian diseases ought to be diagnosed and where possible removed.

But it is, I think, a still more important fact that not only do many of the leading members of the profession think thus and strongly condemn those alienists who do not give their patients this chance of recovery; I say it is a still more important fact that the same opinions are becoming common, not to say universal, in the profession at large, and it looks as if those of us who will not move in this matter may expect very shortly to be condemned by the profession of which we are members, and to which we stand in one special and important department of practice as consultants. These are strong words and should not be used unless they are true, and I will lose no time in explaining to you why I believe that they are so and why I have thought it my duty to use them in this place.

Over three years ago we began at London asylum the special work about which I am to speak to you to-day. We had no in-

firm, and in order to do the work at all we had to fit up a couple of rooms on a fourth floor. We had not there sufficient space for our work and having no elevator the constant use of these rooms so high up involved much labor. As soon as I became satisfied that the work was going to be successful and would go on I began asking the government for an infirmary. It was not granted largely because the government was advised by certain doctors that the work was unnecessary and in fact undesirable. I was questioned by the government on this point. It was said to me that the profession at large would not endorse this work, and it was intimated that the government could not promote a work of so serious a nature unless the general sense of the profession was behind it. In order to find out what the profession of my district of western Ontario thought on the point (for they are the men to whom I stand in the relation of a consultant, and it is they who constitute, as far as I am concerned, the court of final appeal), I issued to them a circular-letter dated 16th of November last. In it I stated what we at the asylum had done and were doing and asked each man individually to give me his frank opinion of the work, whether it ought to go on, and whether or not it was the duty of the government to encourage the work by providing suitable buildings, instruments and appliances for doing it?

There are in my asylum district some three hundred and fifty practitioners. They were all asked the above questions. From them I had two hundred and fifty-five answers which remain on file at London asylum and which I should be happy to show any one who would like to examine them. I have made it my business to carefully read and analyze these answers, as upon them was based a deputation to the government on the fifteenth of December urging upon them that they should build the infirmary in question and otherwise support and encourage the work. The answers received to my circular-letter surprised me and will perhaps surprise you. They were in brief as follows:

- 2 opposed the work,
- 3 were non-committal,
- 10 expressed moderate approval,
- 35 expressed strong approval, while
- 205 expressed very strong approval and said it was the duty of the asylum staff to carry on the work.

I will read a few extracts from these letters to show the tone of them:

1. "I consider that this work should be done in every case and that it is your duty to see that it is done."
2. "The work should certainly be done."
3. "The work ought to be done."
4. "There is not a shadow of doubt that in all the cases operated upon, the mental and physical condition of the patients were aggravated by disease which could only be remedied by operations similar to those performed."
5. "Many cases of insanity in females arise from uterine diseases; operation should in all cases be done."
6. "I unhesitatingly say that this work should go on."
7. "Having been present at many of the gynecological operations at your asylum during the years '96 and '97, I am sure that the operations performed in each case were necessary for the physical welfare of the patient."
8. "I am in favor of the work done at your institution. I have witnessed some of the work and can state positively that in the cases where I was present the disease justified the operation."
9. "This work should receive the consideration, the respect, the encouragement and the hearty co-operation of all."
10. "I think it is the duty of asylum authorities to examine patients to find out if there may be some local cause of the insanity. I consider you have done good work and should be encouraged in it. I would be quite satisfied to accept the work done at your asylum on behalf of any patient I might send."
11. "The government should provide proper facilities for the work, especially in the matter of improved hospital accommodation."
12. "I have watched with considerable interest the work done at the London asylum, although not taking any particular interest in mental disease. Visits to various asylums have led me to the conclusion that there is little fear of meddling gynecology being practiced in them, in most the tendency being in an entirely opposite direction, namely, not to interfere at all. I trust you will continue the work and urge upon the government the necessity of providing ways and means for carrying it on in the most modern and scientific manner."

It is needless to pursue this branch of the subject. These

extracts give a perfectly fair representation, in petto, of the two hundred and fifty-five letters from twelve of which they are taken; not picked out, but as they came to hand. It may be that western Ontario is, in this matter, an exceptional district, though I do not see why it should be so; but if it is not, the answers to this circular throw a flood of light on the feeling of the profession at large on the question of gynecology in the asylum.

Now I am not here to say that we should for one moment accept the dictum of the outside profession on any matter relating to our own special work about which we should be and are the best and final judges. But I do say this: That if we find a widespread, almost universal belief of this kind in the mind of the general profession, we should not be wise to conclude that it is unfounded until we have taken pains to satisfy ourselves of the truth or untruth of it. To say, as I have heard superintendents say, that there is little or no pelvic disease among their female patients, and declare in the next breath that they had never looked for such disease because they did not think it right to make the necessary examination without evidence in the first place of such lesion as would justify it, is, I venture to think, rash.

I suppose it is not impossible that there might be in a given asylum eighty or ninety per cent. of pelvic disease in the female patients and a hundred miles away another asylum in which the female patients (drawn from an identical population) were free from that class of maladies. But could you expect that any one would believe it as long as the investigation which revealed the disease in the one asylum had been totally unpracticed in the other?

I have said, and shown, that there is a feeling in the mind of the general profession that there is a good deal of pelvic disease among the female insane; also that such disease has often a causative relation to the mental alienation existing; further, that it is the duty of asylum physicians to make sure whether such disease exists in any given case and to remove it if it does; also, that great benefit will on the whole result to such female patients from the removal of such disease. If this feeling is well founded it is surely most important that in all asylums it should be heeded and acted upon; if it is not well founded it is almost as important to asylum superintendents to show that it is based on a misapprehension of the facts.

I want now to tell you something of our experience on the subject in London asylum during the last three years. I cannot possibly go into details of cases, many of which have been given in a prior paper and in my last three annual reports. Each case is of course kept in a special book at the asylum; this book and the patients themselves, any that remain at the asylum, are freely offered for inspection by any person who feels a scientific interest in the subject.

It must not be supposed that I desire or expect any particular credit to be given to me personally for this work; if credit is due to any one it is payable in the first place to Dr. Hobbs, my third assistant, who operates, and in the second to Dr. Meek, a London gynecologist, who has been from the beginning his principal assistant. This being the case, it cannot be claimed by any one that I am led away by desire or expectation of notoriety, as none could redound to me under the circumstances. I am simply a more or less intelligent, and, I trust, impartial spectator, witness and reporter.

And now to show the frequency of pelvic disease among female patients, at least in my asylum at London, I must give you the results of our examinations down to date. They are as follows: We have examined altogether 132 patients and found organic disease in 122 of them; only ten patients of the entire number being free from such disease. Of the 122 cases of organic disease, we have operated on 109; there remain 8 others to be operated upon, and there were 5 cases which, although the subjects of organic disease, were not suitable cases for operation.

I do not, of course, claim or suppose that these figures indicate the percentage of organic pelvic disease in all insane women. We have naturally examined those cases in which there seemed the greatest likelihood of finding disease. But after making all allowance for that fact the result of our examinations remains sufficiently startling.

It has been charged against us that in many of these cases we imagine disease exists and then look for it and (even if it is not there) find it. The answer to this friendly suggestion is that we never operate on our own diagnosis; this is always either made for us or confirmed by at least one outside, thoroughly competent man, who is entirely independent of all members of the asylum staff. I myself never take part in making the diagnosis,

but am always present at the operations and am always satisfied by actual observation that the disease which I had been told was diagnosed is actually present.

In every operation, as well as in every diagnosis, we are assisted by at least one expert gynecologist as well as other good surgeons who are all entirely unconnected with the asylum, and the diagnosis previously made is verified by them as well as by myself. It is simply impossible (the way our work is done) that we could diagnose and operate for a diseased condition that did not exist.

Our surgical work is divisible into two main sections:

I. Gynecological work and

II. Ordinary surgery.

In the first division there are 109, and in the second 32 cases.

The 109 gynecological cases presented the following pathological conditions, often several in one case.

In 14 cases there was dysmenorrhoea or menorrhagia; in 62 cases there was disease of the endometrium; in 63 cases there was subinvolution of the uterus; in 25 cases there were hypertrophied cervixes; in 34 cases there were lacerated cervixes; in 19 cases there were cystic cervixes; in 3 cases there were polypi of the cervix; in 7 cases there was fibroid tumor of the uterus; in one case there was epithelioma of uterus; in 1 case there was sarcoma of uterus; in 33 cases there was retroversion of the uterus; in 5 cases there was complete procidentia of the uterus; in 18 cases there was ovarian tumor often with disease of the tubes; in 22 cases there were perineal injuries with their sequential diseases; in 1 case there was recto-vaginal fistula; in 1 case there was an ischio-rectal fistula. A total of 309 diseased conditions in the 109 cases.

The operations performed (often several in one case) were the following:

Curettage and divulsion.....	83 times
Operations on cervix.....	38 "
Suspension of displaced uteri.....	26 "
Ovariectomies.....	12 "
Hysterectomies.....	16 "
Perineorrhaphies.....	18 "
Laparotomies for tubercular peritonitis.....	2 "
Operation for hematoma of ovarian ligament.....	1 "
Total.....	195

The results of these one hundred and ninety-five operations performed on one hundred and nine patients have been so far as follows:

First as regards bodily health: In three cases the patient died as a result of the operation. In nearly all the rest of the cases where there has been time enough for any result to follow, the physical health of the patient has been restored or greatly improved.

Then as regards mental health:

In 39 cases the patient recovered from her insanity.

In 32 other cases there has been improvement, often very marked, in the mental health of the patient.

In 35 cases there has been no improvement in the patient's mental condition.

So that seventy-one out of the one hundred and six patients who survived the operation, either recovered their mental health or this was improved.

The length of time that the seventy-one patients who either recovered or improved had been insane at the time of the operation was as follows:

Under one year.....	21
Between one and two years.....	14
Between two and three years.....	10
Between three and four years.....	5
Between four and five years.....	2
Between five and ten years.....	11
Over ten years.....	8
Total.....	<u>71</u>

It is my conviction that very few of these patients would have either recovered or greatly improved if they had not been operated upon; it is quite certain that many who did recover or improve would have done neither had their physical disease not been removed. Some of those who did well must have very soon died had no operation been done.

In order to show clearly that at least sometimes the removal of the physical disease was the cause of mental recovery I will cite a few cases, and before giving any of my own I will instance one already referred to which was treated and reported by Dr. Holmes. The woman, named E. R., had a good family history, had always enjoyed good health, was married at the age of

twenty-four, and remained in perfect health during the first two years of her married life. She then began to suffer from mental depression, which gradually increased until her husband feared she might attempt to take her life and he provided her with a companion as a precaution. While in this condition she became pregnant for the first time. When labor came on it was found that the child could not be delivered alive on account of a large hard tumor occupying the posterior wall of the cervix. Delivery was effected by craniotomy. The mental condition of the woman grew steadily worse. A month after confinement Dr. Holmes removed the tumor by enucleation. Her mental health then began at once to improve, and within two months after the operation her bodily health was excellent and she was perfectly sane. Two years from that time she was delivered naturally of a living child. Her health remained good for nine years. Then she again became melancholy and gradually sank into her old suicidal condition. She was again brought to Dr. Holmes for treatment. He examined her and found a fibroid tumor as large as a small lemon about the site of that formerly removed. This tumor was enucleated as had been the first years before. In three weeks she left the hospital, but her mental condition did not improve as hoped, and a few weeks later another examination revealed the existence of a third tumor about the size of the second occupying the posterior lower segment of the uterine wall and encroaching on the cervical tissue. The removal of this third tumor was followed by prompt improvement in her mental condition and she has since remained quite well. It seems to me impossible to doubt that in this case the tumors were the true cause of the attacks of insanity.

Another case almost as pointed is that of M. B., who was admitted into London asylum 16th November, 1897, suffering from subacute mania of eighteen months' standing. She was nineteen years of age; her insanity was more pronounced at each menstrual period. She was examined in December; it was found that the uterus was acutely anteфлекed; there was endometritis and both ovaries were enlarged. The cervical canal was almost occluded by the anteфлекion. She was operated on at once. The uterus was curetted and the canal straightened by Dudley's operation. Relief was thus given to the irritated endometrium. She became sane immediately after the operation; was, in fact, quite well

the very next day. She remained well two months, then in February she gradually passed into her former insane condition and remained so steadily until early in April. She was then re-examined and it was found that, although the first operation was successful as far as straightening the canal and relieving the endometritis went, yet the ovaries remained enlarged. At the time of the first operation we, not realizing the true nature of the ovarian enlargement, hoped that the uterine irritation being removed it would subside. As it had not done so we now (early in April) removed the enlarged ovaries per vaginam. They were found to be both cystic and almost void of ovarian tissue proper. After this operation M. B. made a good physical recovery and in the course of a week began to improve mentally. During the second week after the operation she recovered mentally and has been quite well since and is to-day.

I will give briefly eight more of my own cases to illustrate this point—the point, namely, that the removal of the physical disease sometimes, at all events, is the actual efficient cause of the mental recovery which follows thereafter.

S. Q.—A case of chronic mania with erotic delusions of three and a half years standing at date of operation. The case seemed hopeless. Two cystic ovaries were removed; improvement set in almost at once. In a year after the operation the patient was much better and she steadily improved until in 1895, two years after the operation, she was well and has been so ever since.

A. S.—A case of chronic mania of two years standing at the time of the operation. There was apparently no prospect of recovery. In April, 1895, a lacerated cervix was repaired and curettage performed. She began to improve at once. By the end of 1895 she was well and has remained so ever since.

M. M.—A case of chronic mania of over seven years standing at the time of operation. A cystic ovary was removed, a lacerated cervix repaired, and the uterus curetted, in October, 1896. Improvement set in at once; by the end of the year she was well enough to go home and has lived at home since. Her husband says she is well.

C. S.—Became gradually insane from puberty, being always much upset mentally at each menstrual period. She became steadily worse as she grew older. At the age of twenty-six she had been a declared lunatic (a case of destructive mania) for five

years and had been in an asylum for the last four of those years. The case was absolutely hopeless and was pronounced so by the superintendent of the asylum from which she was removed to London. She was taken to London asylum for special examination and (if thought well) treatment. Examination revealed that one ovary was converted into a multilocular cyst as large as an orange, the other was adherent to the intestine and either atrophied or had never developed. Both ovaries were removed. For two months after the operation, which was performed in December, 1896, she remained unchanged mentally. Then, after a final outburst of violence in February, 1897, she became almost instantaneously perfectly sane and has remained so ever since. A marked feature of this case is that ever since her mental recovery, now fifteen months ago, she has menstruated regularly and without either mental or bodily discomfort.

A. F.—Picked up insane in streets of London and could give no account of herself. We found out later that she had been in an asylum in Buffalo. She had been about three years insane. When she came to us was a case of incomplete psychocoma. She would answer questions but had no idea what she said. She would answer the same question differently a dozen times in a dozen minutes. We examined her almost at once for pelvic disease. We found the uterus retroverted and the ovaries cystic. Uterus and ovaries were bound down in a mass on the floor of the pelvis. Ovariectomy and ventral fixation of the uterus were performed. On the third day after the operation the woman became suddenly sane. She was kept at the asylum (as she had no friends in Canada) for six months after the operation. During that time she remained well. She was discharged well and sent to a sister in Pennsylvania in June, 1897. I have not heard from her since. I suppose she keeps well.

L. S.—A case of chronic mania of sixteen years standing. For last eight months worse; admitted to asylum in December, 1897; examined on admission. The ovaries were enlarged and cystic. Ovaries, tubes and uterus were adherent one to the other and massed in the cul de sac. January 11th abdominal section and removal of uterus, tubes and ovaries. Within a few days after the operation, as soon as she was sufficiently recovered to converse, she appeared to be perfectly well mentally and she has continued quite well to the present.

E. W. I.—A case of delusional mania of five years standing. There had been no improvement and the case was apparently hopeless. She developed a papillomatous cyst of the right ovary which, upon being removed, weighed fifteen pounds. The operation was performed in September, 1897. It consisted in the removal of both ovaries (the left was also cystic) and the uterus, which was also diseased and massed with the right ovary. She improved almost at once after the operation and left the asylum in December. She has continued well ever since.

E. E.—A case of delusional mania of over two years standing. No apparent hope of recovery. She had subinvolution of uterus and a lacerated cervix. In July, 1895, curettage and trachelorrhaphy were performed. She began to improve both mentally and physically almost immediately after the operation. She was discharged recovered, after three months probation, in March, 1896. She has not since been heard from and I suppose she keeps well.

The last eight of these cases are selected as being, before the operation and without it, apparently hopeless and yet as all making good recoveries. We have many recoveries, among the thirty-seven who got well, as striking as these; but perhaps not many which on a cursory view would seem, before the operation, so absolutely hopeless.

The ten cases given seem to me to afford conclusive evidence that in some cases, at least, the insanity rests upon the utero-ovarian disease and may be cured by the removal of this.

In estimating the proportion of recoveries and improvements in the total number, it must not be forgotten that there are probably quite a few among those cases who have been recently operated on who are at present only improved or not even improved yet who will improve or even recover when they have had time enough. For though many cases begin to improve within a few days of the operation and are soon almost or quite well, there are many others which show little or no change for weeks or months after the operation, yet who after a time either improve or make perfect recoveries.

Now as to the thirty-two non-gynecological cases: Twenty-one of these were Bassini's operation for the radical cure of hernia; two were operations for the removal of cancer; one was for appendicitis; one trephining; and seven were minor opera-

tions. The result in this group of cases was markedly different from the result in the first group. The physical health of the patients was in every case improved. There was no death. The patient was made more comfortable and, as a result of that, apparently, he often became markedly less irritable, more amenable to management, often very much more useful about the asylum; but in no single instance was there such a change in the patient as could by the most sanguine be called mental recovery or even marked mental improvement.

It seems plain, then, that it is not simply the operation that cures the insanity in any case, but it is something in the kind of operation performed, or rather in the kind of disease which is removed, which decides whether or not the surgical procedure is going to effect a radical change in the patient's mental condition. Let us look into this a little closer. We have seen that in thirty-two cases of ordinary surgery no cure or marked improvement was effected in the mental state of any of the patients; but that in one hundred and nine cases of gynecological surgery there was either cure or marked improvement of the insanity seventy-one times. But these gynecological operations were very various. For the sake of illustrating the point I am now discussing I shall divide the one hundred and nine cases into six groups as follows:

1. Hysterectomies, 16.

2. Removal of diseased ovaries and tubes, 12.

3. Operation for replacing and retaining uterus in normal position, 22.

4. Operations on the cervix, 30.

5. Operations for minor uterine diseases, 21.

6. Operations for vaginal lesions, etc., 8.

Total, 109.

The relative effect of these different classes of operations seems to me most interesting and instructive and I will ask you to consider it attentively.

1. Of the sixteen hysterectomies, four recovered and three improved, about 44 p. c.

2. Of the twelve ovariectomies, seven recovered and four improved, or leaving out the patient who died, 100 p. c.

3. Out of twenty-two cases of replacement of the uterus there were four recoveries and eleven improvements, 68 p. c.

4. Out of thirty operations on the cervix (mostly amputations) there were twelve recoveries and nine improvements, 70 p. c.

5. Out of twenty-one operations for minor uterine diseases (mostly curettage and divulsion) there were twelve recoveries and two improvements, 66 p. c.

6. While out of eight operations for vaginal lesions, etc., there were no recoveries and only three improvements, 37 p. c.

A consideration of this analysis will show that in our experience neither the removal of a diseased uterus, nor the fixation of a displaced uterus, nor the cure of a vaginal lesion, has much effect in the relief of insanity; but that when this last results from an operation it is nearly always if not always due to either the removal of diseased ovaries, the amputation of a diseased cervix or to the cure of some diseased condition of the endometrium. For it is after these last that recovery or improvement is oftenest observed, and when recovery or improvement follows other operations it is when some of these last have been done at the same time.

Diseases of the ovaries, of the cervix and of the mucous lining of the uterus then seem to have more effect in inducing insanity than have uterine tumors and uterine displacements, though these may cause more distress than the former, and the small percentage of recoveries in our sixteen cases of hysterectomy seems to me an answer to the contention that it is the shock of the operation and the careful after-attention to which very largely are due the good effects of these operations. For in our gynecological work, I need hardly say, the shock of the operation is greater and the after-attendance more strict and prolonged in hysterectomies than in and after any other of our operations.

It seems, then, from what little experience we have had, that an ordinary operation, such as a Bassini for hernia, or an operation upon the vagina, has no curative effect upon a co-existing insanity: that the removal of diseased ovaries has an enormous effect, and that curettage, where there is endometritis, and amputation of a diseased cervix, have an effect about intermediate between these extremes. I am at present inclined to believe that the curative effect in all our operative work is due to one or other of three things: Either to the removal of diseased ovaries, to the cure of disease or injury to the cervix, or to the restoration to a healthy condition of the inflamed or otherwise diseased endo-

metrium. For where (with us) recovery has taken place after hysterectomy, diseased ovaries have often been removed at the same time. So the few recoveries that have taken place after replacing the uterus in position might very likely have been due to the curettage and divulsion simultaneously practiced. In fact, it would be almost absolute truth to say that we have had no recoveries apparently due to operations in cases in which the removal of a diseased ovary, operation upon the cervix or curettage have not, one or other of them, been practiced.

Now you will not fail to notice that these three, the ovary, the endometrium and the cervix are the most vital, are indeed the creative, organs of the female sexual system. In them, in fact, centres the life of the woman as such and serious disease or even functional disturbance of them does, we know, in cases in which there is no question of insanity, always produce a profound effect upon the woman's mental state.

But is it not possible to go a little deeper than this general statement and give a more specific reason for the probable beneficial effects of the removal of diseased ovaries at least? I think it is. It seems to me that the recent physiological theory of so-called internal secretion will furnish the clue that we want. According to this theory, there is a "normal and constant contribution of specific material by the reproductive glands to the blood or lymph and thus to the whole body." † This contribution may be supplied or produced artificially, as by the daily injection of testicular juice, with very marked effect. But in case of disease of the organ that supplies it, it is not only liable to be cut off, as of course it must be upon removal of that organ, but (what is perhaps far more serious) the physiological is liable to be changed to a pathological contribution and the internal secretion which was a source of health and energy to the whole economy to become a toxic agent of unknown but probably great virulence. The removal of the diseased ovaries would of course cut short this poisoning process and enable the *vis medicatrix* to re-establish the health of the individual.

Thus much at least may with reasonable probability be said as to the good effects seen to follow the removal of diseased ovaries. Something of the same kind may be and I dare say is true of the endometrium and the cervix; but I will not tax your patience by prolonging the argument.

† American Text Book of Physiology, 1896, p. 901.

In conclusion, I want to point out what I think will be the most important outcome of the operative work of which I have been speaking. Should it once be conceded by those who have charge of the insane, by those men to whom the general profession look for guidance in these matters, that utero-ovarian diseases are capable of acting as a cause of insanity and that removal of these will in some cases result in the disappearance of the mental disturbance, almost at once it would happen that many insane women instead of being sent to an asylum would be operated upon and relieved at home. More than that, if the connection in question were admitted, these women would not be allowed to remain insane at home for months and often years as happens now, but would be examined, operated upon and relieved within a few weeks of the appearance of the insanity. More even than that, when the eyes of the general profession are fully opened upon this subject, symptoms of subinvolution, endometritis, or laceration of cervix, will be watched for after child-birth, and if present, will be at once relieved and the woman who might have become insane in consequence of one or other of these lesions will remain sane.

ANNUAL ADDRESS.

THE MUTUAL RELATIONS OF THE ALIENIST AND NEUROLOGIST IN THE STUDY OF PSY- CHIATRY AND NEUROLOGY.

By J. T. ESKRIDGE, M. D.,

President of the State Board of Commissioners for the Colorado Insane Asylum,
Neurologist to St. Luke's Hospital and Consulting Alienist and
Neurologist to Arapahoe County Hospital, Denver, Colo.

When I first received the invitation to deliver the annual address before your Association, I promptly declined, because I felt unequal to the task. On reconsidering the matter, however, I concluded to accept and try to do my best, realizing that nothing more than this would be expected of me, and that in my failure, as I certainly must fail to maintain the high standard reached by some of my predecessors in their annual addresses, I should not seem unmindful of the honor that you have conferred upon me. I desire to thank you for this evidence of your esteem, and to assure you that I feel a keen appreciation of it.

I have selected for the title of my paper, "The mutual relations of the alienist and neurologist in the study of psychiatry and neurology." I may be accused of airing a hackneyed subject that has been worn threadbare by frequent discussions, but if I succeed in presenting it in a new light, and in making some practical suggestions for your consideration, my object in serving you will have been accomplished.

I wish to remind you here that what I may have to say in reference to psychiatry and the management of hospitals for the alienated, will relate mainly to the scientific side of these subjects. I am not unmindful of the fact that directly the prac-

tical management of a hospital, at least to the patients, is of greater moment than the scientific. It is well recognized, however, that the more carefully and scientifically physicians study the cases of their patients, the more attention they pay to intelligent treatment. There is less of the empiric in the management of cases by such men. That principle which holds good in the treatment of individual cases, applies with equal force in the practical management of hospital cases. I have caught myself time and again almost unconsciously paying extra attention to the treatment of patients, whose cases have been the subjects of some of my clinical lectures. This observation has been made by my patients, as well as by myself, so that those who had been exhibited in the clinic room became the objects of jealousy by the less fortunate. I have no doubt that every clinical teacher of medicine here to-day has had similar experiences.

If, then, the best scientifically conducted hospitals are the ones in which the patients receive the greatest practical attention, no further apology on my part is needed for limiting my remarks to the scientific aspects of the subjects which I may consider.

Heretofore psychiatry and neurology have been commonly regarded as two specialties, not, however, as distinct from each other, but bearing a certain relation one to the other. I shall endeavor to show that they are, when scientifically considered, so intimately related to each other that they are one and the same. The alienist can no more intelligently pursue the study of psychiatry without a comprehensive knowledge of neurology than the neurologist can become thoroughly an expert in neurology without having a well grounded knowledge of the diseases of the mind and their treatment.

Let us first consider the necessary accomplishments of the alienist. The broadest and best specialists in any department of medicine are those who have a good theoretical and practical knowledge of general medicine. The alienist is no exception to this rule. He must not only have a general knowledge of medicine, but, in addition, he must be a person of extensive reading, with powers of accurate and close observation, and given to studious and thoughtful habits.

Insanity is not a disease. It is a symptom of perverted function, or of disease of the brain that impairs or destroys mental integrity. It follows, then, that the expert alienist—and all

alienists ought to be experts—should be both theoretically and practically familiar with those perverted functions and organic lesions of the brain that give rise to insanity. The alienist should know something of everything in medicine, and everything, as nearly as possible, of psychiatry and neurology. In general medicine, he must be sufficiently versed to be able to reason from cause to effect. It may be that through some systemic disturbance the blood has become impoverished or poisoned, and as a result of the vitiated blood state, the functions of the brain have been perverted. On the other hand, an emotional or mental shock or prolonged worry may so disturb the workings of the organs of organic life as greatly to retard or pervert the metabolic processes, and these conditions may, in their turn, still further derange the action of the brain. Some diseases or perverted functions of the brain will give rise to insanity, while others will not. Insanity is always the direct result of disturbed brain function. This conclusion may seem trite. I merely refer to it to show that neurology, which deals so largely with diseases of the brain, and psychiatry, which is limited almost exclusively to diseases of the brain, are scientifically one and the same special department of medicine.

Since the study and treatment of insanity are so intimately blended with the study and treatment of the diseases of the nervous system, it follows that an expert alienist must of necessity be an expert neurologist. He must possess an intimate knowledge of the gross and microscopic anatomy of the entire nervous system. He must know the functions of the different portions of the brain, spinal cord and nerves, and of the ganglia of the nervous system. He must know the results of perverted function of the various parts of the nervous apparatus. He must be familiar with the numerous organic lesions of nervous structure, and be able to interpret their effect, whether mental or physical. Hence there is no line of demarcation between the knowledge of structure, function and disease of the nervous system that should be possessed by the alienist and that which should be familiar to the neurologist.

It follows, then, that the manner of investigating and studying cases of persons mentally sick, in general terms, is the same as that required in a case of obscure nervous disease, and for each the investigation should be equally thorough. A detailed history

of the patient previous to admission into a hospital for the alienated should be obtained when possible. The meagerness of this part of the history is rarely the fault of the medical official of the hospital to which the patient is sent. It is not always possible to obtain the desired information, and when it is obtainable it is rarely forwarded to the institution in which the patient is to reside. This fault is due to the neglect of the physician, who is often a neurologist, under whose care the patient had been prior to the transference to a hospital for mental diseases. The history, when complete, should contain particulars in reference to the habits, temperament, moral and physical weaknesses and diseases in the remote and near relatives of the patient, together with a full account of the patient's health and habits from birth up to the time of the beginning of the mental sickness. Then should follow a clear but brief description of the manner in which the mental infirmity began, developed and progressed. If any cause for the mental aberration is given, all known facts should be stated, so that the alienist, on account of his greater experience with mental disease, may be able to draw his own, and probably better, conclusions. Appended to the history should be found a record of the various examinations into the mental and physical condition of the patient. These examinations should consist of careful inquiries into the condition of every organ of the body, the state of those functions, the condition of which can be ascertained during life, together with accurate records giving information concerning the reflexes, the motor phenomena, the sensory when they can be ascertained, the special senses, the actions of the patient, his speech, hallucinations, illusions and delusions, when they exist.

Were such detailed histories, with records of examinations, as the one here indicated to accompany all patients admitted into hospitals for mental diseases, the alienists would soon be in possession of a mass of facts that would aid in clearing up many mooted points in relation to the causes and prevention of insanity. The neurologist in particular, and the general practitioner of medicine in general, are often given to fault-finding because psychiatry seems to advance so slowly among hospital physicians whose opportunities are so great for the study and treatment of the diseases of the mind. We apparently forget that the beginning of the study of psychiatry must commence without the walls

of hospitals devoted to the care and treatment of the insane. I do not wish to commend a single member of this Association for anything that he does not deserve, nor do I wish to be understood as implying that you have all done your duty in trying to advance the science of psychiatry. I do wish, however, to emphasize the statement that to the carelessness and indifference of the neurologists and of the general practitioners of medicine in the study of insanity and in the treatment of the insane, may be attributed much of the tardiness in the progress of psychiatry. It is requiring too much of human nature to expect hospital physicians to feel the same interest in the scientific study of cases of insanity, the previous history and physical and mental conditions of which are unknown to them, as in those the entire records of which lie before them as an open book. In Colorado, among the pauper insane, it is impossible for the physician to obtain a reliable history in regard to relatives and previous states of health of the patients in more than one-half of the cases.

We will suppose that the patient has been transferred to the hospital either with or without a history and a record of examinations. What are the duties of the chief medical officer, who should be an expert alienist? What I have to say in this connection must relate to the workings of such hospitals for the insane as are well supplied with skilled assistant physicians and trained nurses, and have sufficient money, first to make the patients as comfortable as possible, and secondly, to carry on continuous scientific investigations. In those institutions to which a meager appropriation of money is doled out, year by year, by indifferent legislators, the struggle to feed and clothe the inmates must go on, and the chief medical officer must content himself to do the best that he can single-handed, although he may have 400 to 500 patients to look after, as is the case in the Colorado State Insane Asylum. In this institution there are 432 patients, no assistant physicians and only eleven attendants for both day and night duty, with insufficient appropriations to feed and clothe the inmates, even after utilizing the farm products raised largely by the labor of trusty patients. This state of affairs remains in the face of the fact that the ninth biennial report, made in December, 1896, showed that the patients in this hospital were cared for with less expense *per capita* to the State than those of any other hospital of the kind in the United States.

We certainly have no right to expect scientific work in a hospital so poorly equipped, yet I shall be able to show you that our physician in charge, although most of the executive work of the entire institution devolves upon him, is making improvements from time to time and is preparing for rapid advancement in scientific work as soon as the appropriations shall enable the board of commissioners to employ the necessary assistant physicians and other skilled help.

I will now speak of the scientific work that we have a right to expect of the presiding medical officer in a hospital for the treatment of mental diseases, that is, in an institution in which he has skilled assistant physicians and other necessary trained help, together with a carefully selected, but not necessarily a large, medical library.

We will suppose that the family and personal history of the patient, with record of examinations, have been sent to the hospital with the patient. These should be carefully transcribed into a book kept for that purpose. Then should follow any other facts in the history that the physician may be able to elicit from the patient or his friends. In this connection, a careful inquiry should be made in relation to heredity and sanguinity, noting besides the degree of simple blood relationship, the consanguinity or exsanguinity of the parents.

All hospitals of the kind under consideration should have a receiving department, into a room or ward of which a patient on entering the hospital should be placed until the case is properly studied and classified. As soon after admission as possible, a thorough and systematic examination of the patient's physical and mental condition should be made. The blood, urine and sputum should be carefully examined in every case. The nutrition of the patient should be noted. The state of digestion and the condition of the thoracic and abdominal organs should be ascertained as nearly as possible. The nervous system should receive very careful attention. The gait, the presence or absence of ataxia, tremor, muscular weakness, the reflexes deep and superficial, the electrical reactions of the muscles, speech and the sensory phenomena, both general and special, should be investigated, and the results noted. In many cases of mental disease it is impossible to determine accurately the condition of the sensory phenomena, so that it has become too common to neglect

them entirely in this class of cases. Any one who has given this subject much attention will agree with me that in many cases of mental disease, it is not difficult to make a fair test of the sensory phenomena, with very satisfactory, and sometimes interesting, results. Under the head of the general sensory phenomena, tactile, temperature, pain, muscular, posture, pressure and joint sensations may be classed. A careful ophthalmoscopic examination of the eyes should be made and recorded in every case. Any head pain or discomfort in any other portion of the body should be inquired for, together with various subjective sensory disturbances, and the conditions noted. The mental symptoms should receive more than a passing notice. It is not sufficient to state that delusions, illusions or hallucinations of such a character are present, either with or without evidence of dementia and that the patient is exalted or depressed. The more tangible symptoms of mental aberration, such as delusions, illusions and hallucinations should be looked for and noted when present, but the examiner should not stop here. Much valuable information regarding the mentality of the patient can be gained by a careful analysis of a delusion. Is the delusion systematized or unsystematized? Is there an attempt at systematizing, but a failure to sustain it in long explanations? To what does a delusion relate? How does it affect the mentality of the patient in regard to his reasoning power and in relation to his personality or ego? Does the patient really reveal his delusion, or does he attempt to hide it? Does he recognize his delusion as such, but confess his inability to prevent it from influencing his actions? Is it fixed or changeable? Does the delusion involve one or more sensory tracts? Is the delusion primary or secondary? Is it persecutory in nature? Does it relate to depression or exaltation? Is it grandiose in character? These and many other inquiries concerning a delusion may be made and noted. You are familiar with them and well know their importance. I am not so conceited as to think that I can teach the youngest member of this Association anything in regard to the study and investigation of mental diseases, but I am endeavoring to show how much valuable information we all would be the possessors of if every symptom of each case of mental disease were carefully recorded.

Our chief medical officer, who is surrounded by all the facilities necessary to enable him to conduct a hospital for the study and treatment of cases of mental disease, should not content himself with recording the condition of the emotions by saying, "the patient is depressed" or "excited." Some patients suffer from intense mental depression, yet they may be, and often are, the most noisy ones in the hospital. Some are in a state of mental exaltation, yet they are quiet, happy and good natured. Some are easily moved to tears and laughter. Some manifest their emotional states in a reverse manner to what we find in health; they shed tears on joyful occasions and laugh and appear merry in the presence of the dead. Some are irritable, morose, suspicious and seclusive; while others are happy, good natured and frank. The mentally sick are influenced to a greater degree by the emotions than we find to be the case with patients in a general hospital, therefore, the emotions should receive greater attention in the study of the former than is necessary in the latter.

The further examination of the mental condition of the patient should include a careful analysis of the moral sense. A study of the moral sense of the eccentric and alienated has interested me for a great number of years. The general practitioner of medicine and the neurologist might greatly aid the alienist in the investigation of the moral sense of his patients by including in the family history, to be sent with the patient, the character and degree of the moral perversion in various members of the family, and by noting whether the moral tone of the family had improved or deteriorated from generation to generation, and its relation to sex and consanguinity. Some are moral imbeciles from birth, while others become moral imbeciles from the results of disease, from the abuse of certain drugs or alcohol or from injuries to the head. Some are devoid of all moral sense; some seem to have no moral sense in sexual relations; others are natural liars; and in not a few there is no sense of honesty. Occasionally we meet with the moral crank who seems hypersensitive in regard to his moral conduct and lives in mortal dread of doing wrong. It is not rare for these to be lax morally in some particular direction. They not infrequently lose their reason under some trying ordeal. The sexual pervert needs to be studied and classified. Not infrequently a good citizen, whose

reputation for probity and honor has always been untarnished, suddenly, on the slightest suggestion, apparently without the slightest cause or provocation, loses self-control and takes his own life or that of another, or commits some other desperate act for which he is unable to account. The explosive violence is to him what the nerve storm is to the epileptic; it is beyond his control. Surely a careful inquiry into all these cases and a noting down of every modifying circumstance would in time throw a flood of light on the causes and the pathological influences that underlie them.

In examining into and recording the condition of the higher cerebral faculties in many of the alienated, much valuable information, beyond the usual, may be obtained, if the inquiry and analysis are thorough. Does a condition of amnesia exist? Is it complete? Does it relate to remote or recent events? For what class of objects or for what parts of speech is memory most affected? Is there a period in the patient's life during which memory is a blank? Does it relate to the head injury or to some illness? Is it retrograde, anterograde or retro-antegrade in character? In ordinary cases of amnesia, the memory for recent events is lost first, while that for the remote ones remains fresh, and the recollection of events long past takes place more readily than in health. In a few exceptional cases this order of the loss of memory has been reversed.

In testing the power of reasoning, does the patient realize that his premise is wrong, or does he think or know that it is right? Granting him his premise, does he reason logically or are there flaws in his process of ratiocination? In what direction and for what subjects is his reason most affected?

After a patient's case has been carefully studied and classified, he should be transferred to his room and allowed to mingle with other patients to observe the effect of association and imitation upon his psychosis.

It may be asked how often is it necessary for scientific purposes to re-examine a case of mental disease? No rule can be given in answer to this question. Every case must be a law unto itself. I have seen in the rules made by some State Boards of Charities for the government of hospitals for mental diseases, the requirement that every patient should be examined and his case recorded as soon after admission to the hospital as possible,

and a re-examination made every few months. It must be evident to every scientific investigator that such work, at the best, is perfunctory and devoid of much value either to the patients or to science. All scientific observation and investigation, to amount to much, must be the work of love, else it loses its freshness and crispness, and the task (for all perfunctory work is a mere task) is performed without zest. From the rules to which reference has just been made, it would seem that some regard the manner in which mental cases should be observed and studied, to be different from that which has been found best in investigating cases of disease in general. The fact is, that the physician who keeps a close watch of his cases, general or special, after he has made an exhaustive examination, and notes in writing changes as they occur from time to time, will not find it necessary in the majority of instances, to make repeated systematic re-examinations. The manner and frequency of examining patients cannot be intelligently dictated by boards of control, but must be left to the judgment of the physician in charge of the hospital. The condition of certain organs and the state of certain fluids should be re-investigated at stated intervals. The urine, the blood and the sputum should be repeatedly examined, also the conditions of the organs, the heart, the lungs and the eyes. What folly and waste of time it would be to make repeated and systematic re-examinations of a case of simple dementia unless a change of symptoms warranted it. On the other hand, much valuable information might be obtained in regard to the course of parietic dementia if cases were repeatedly and carefully studied. The same may be said of many acute mental disorders. Much has been gained in psychology by studying the processes of mental evolution, but much more valuable information could be added to this department of science by a thorough and painstaking investigation of the processes of evolution and decay. Take, for instance, a case of senile dementia. How beautifully the giving away of link after link in the mental organization reveals the manner in which the mentality of the patient was built up. First the memory fails, but for only recent acquisitions, and these in the beginning relate to acts, parts of speech, names and subjects that are known to be the least stable acquisition of the higher cerebral cortex. Later, judgment and reason began to wane and memory for all recent events is

weakened, then lost. Finally one portion after another of the great mental structure gives way, and always, other things being equal, in the reverse order of its acquisition and its stability until the man becomes a child, and finally an animal.

I need not spend much time in describing to you how thoroughly our model physician in his model hospital for cases of mental disease should have conducted the post mortem examinations, not only of the brain, but of every part of the nervous system, and of every organ of the body. These are so absolutely necessary that nothing that I can say will add importance to the subject. How refreshing and edifying it is to observe all the pathologic changes in a case, after having conscientiously and thoroughly studied it daily for months or years, and having noted the course of the disease and watched its modifications by certain complications.

I fear not all the hospitals for the insane that have established pathological laboratories, have resident pathologists, whose sole time is given up to the work of laboratories, but it is gratifying to find that the necessity for such departments and special workers, is being recognized. † The time is not far distant when patho-

† In January of this year I wrote to my friend, Dr. W. O. Krohn, Psychologist to the Illinois Eastern Hospital for the Insane, Hospital, Illinois, requesting a list of all the hospitals for the insane in the United States which had established pathological laboratories and the names of the pathologists, and received the following reply:

"In response to your recent inquiry permit me to say: I have no official list of pathological laboratories established in connection with hospitals for the insane, but from personal knowledge I know that the following institutions have such a feature, and make necropsies of most of the cases as we do here:

"McLean Hospital, Waverley, Mass., Dr. Aug. Hoch, Pathologist; State Hospital for the Insane, Worcester, Mass., Dr. Adolph Meyer, Pathologist; State Hospital for the Insane, Milledgeville, Ga.; State Hospital for the Insane, Tuscaloosa, Ala.; State Hospital for the Insane, Mendota, Wis.; Eastern Illinois Hospital for the Insane, Hospital, Ill.; Eastern Michigan Asylum, Pontiac, Mich.; State Hospital for the Insane, Indianapolis, Ind.; State Hospital for the Insane, Independence, Ia.; State Hospital for the Insane, Clarinda, Ia.; City Hospital for the Insane, St. Louis, Mo., Dr. E. C. Runge, Pathologist; State Pathological Institute, New York City, Dr. Ira Van Gieson, Pathologist; State Hospital at Norristown, Pa.

"Dr. Sidis, in New York City, has established very recently a psychological laboratory something like mine here. Yours truly,
W. O. KROHN."

I wish to add that Dr. Tomlinson, of St. Peter Hospital for the Insane, is doing excellent pathological work.

logical and psychological departments, with skilled directors, will be established in connection with every hospital for the insane. Although in New York, a central laboratory is located in New York City, most, if not all, the hospitals for the insane in that State have established laboratories in connection with the hospitals, and the able corps of workers in this line of research is a credit to psychiatry in any country. The excellent report issued by the Illinois Eastern Hospital for the Insane received most favorable notices at the hands of scientific investigators.

We have nothing but words of praise for the able pathologists who are devoting themselves to investigating the pathology of insanity, and in most instances too, without sufficient remuneration. Let us do all that we can to encourage these faithful and often too little appreciated workers by insisting on the absolute necessity of this line of investigation in the study of mental diseases, and also by endeavoring to see that they are properly paid.

We will now turn to the neurologist. If I mistake not I think most, if not all, of you will agree with me that an expert alienist must be an expert neurologist. What then should be the accomplishments of the neurologist, especially in regard to a thorough knowledge of psychiatry? In the first place, with the present management, it is the neurologist rather than the hospital alienist, who has an opportunity to study and treat mental diseases in their incipient stages. It is early rather than later that the most good can be done in the way of treatment. It is in the early stages of dementia and paretic dementia that fortunes may be saved to the families and friends of the sick by legal steps to prevent the paretic from squandering his money or the senile dement from becoming the dupe of an unprincipled adventurer. The detection of feigned mental diseases, and the diagnosis of obscure cases of mental aberration in persons who have committed crime, require the most thorough theoretical and practical knowledge of the diseases of the mind. For these purposes, the aid of the neurologist is sought far more frequently than that of the alienist in charge of some hospital for mental diseases. The successful management of cases of nervous diseases, both functional and organic, but more especially the former, requires an intimate knowledge of mind. It is in these cases especially, that the truth of the old axiom, "treat the patient rather than the disease," is best illustrated. The successful practical neu-

rologist, besides having personal magnetism, must know how to inspire the confidence of his patient in himself. He must know, in cases that justify it, how to fill the patient with the idea that he is going to improve and get well. The physician who can influence his patient's mind by suggestion, without obtruding the fact upon him, will have a greater success in treating functional nervous disorders by means of placebos than he who simply depends upon the application of drugs for relief of the afflicted. The proper management of hysterical cases requires a most thorough practical knowledge of mind.

Since the work of the neurologist demands that he shall be familiar with practical psychologic subjects, with psychiatry and neurology, let us see whether neurologists have made themselves experts in all these subjects, before we find fault with the alienists in charge of our hospitals for mental diseases with neglecting to advance the science of psychiatry as rapidly as they ought to do and might do.

The eminent neurologist, who so ably addressed you at your last annual meeting in Baltimore, referred, in all seriousness, to the speaking acquaintance which the neurologist has with the subject of psychiatry. It is true that the charm which the study of mental disease has for many, often leads them to study the diseases of the nervous system. But I fear that many of us, who are willing to be called neurologists, have little more intimate knowledge of psychiatry than "a speaking acquaintance with it." Our knowledge of the subject should be as familiar as the names and faces of old friends. How few neurologists take the same trouble in investigating cases of mental disease as they are wont to do in studying those of a nervous character? A number of neurologists during the first few years of study of the nervous system and its diseases carefully estimate most of the cases of mental disease that come under their care. In the early career of the neurologist, he reports his interesting cases of mental disease as well as those of a nervous character. If he has had a thorough training in psychiatry before he devotes himself almost exclusively to the diseases of the nervous system, this early training enables him to become a broad-minded student of neurology. There are, however, weighty reasons why the neurologist should keep himself practically familiar with the different forms of mental disease. In the first place, the early management of most

cases of mental disease, especially in thickly settled communities, depends upon the neurologist. If he does not keep himself abreast of psychiatry and practically interested in the welfare of the alienated, he will not study and manage a case of mental disease with as much enthusiasm and intelligence as he should. In the second place, the alienists in charge of our hospitals for mental diseases must depend upon his co-operation and help for accurate family and personal histories of most persons committed to their care. By fulfilling his obligations to the alienist in this direction he greatly aids in the advancement of psychiatry. A third and last reason that I shall mention here, why the neurologist should continue to be a practical alienist is, that it is his duty to keep in close contact with the physicians in charge of our hospitals for mental disease, because the energy and enthusiasm exhibited by earnest workers in scientific departments so nearly alike that there can be no line of demarcation between them, cannot fail to bring the alienist and neurologist into closer sympathy and stimulate each to greater devotion in devising means for the relief of their patients and the advancement of psycho-neurology.

What are some of the causes that prevent neurologists from becoming more eminent in psychiatry? Too little attention is paid to mental diseases in all of our medical colleges. The defect is found in the large as well as the small schools of medicine and relates to both didactic and clinical instruction. In many of our medical colleges that rank well, not a didactic lecture is given on diseases of the mind. The time given to clinical instruction in mental diseases is too short and the clinical lectures are often of such a character as to fail to impress the student with the great importance of the subject. I regret to acknowledge it, but in many of our medical schools almost nothing is taught in regard to the pathology of insanity. In the next place, it seems to me that the early training of the neurologist is often too narrow. Neurology is the broadest of all specialties, and a thorough preparation for its practice demands a practical familiarity with all other departments of medicine. Most men before they devote themselves more or less exclusively to the subject of neurology, have been for a number of years general practitioners of medicine, but in the study of the most essential branch of medicine to them—psychiatry—they are usually woefully igno-

rant on the commencement of their career in neurology. Another reason for the neurologist's failing to become eminent in psychiatry is the want of opportunity to study cases of mental disease properly. Every well regulated general hospital should have a department for the care and treatment of cases of acute mental disease. An additional reason is, that the managers of hospitals for the alienated have not appointed a number of visiting neurologists to each hospital. Of course, from the location of many of these special hospitals it would be impossible to have a number of neurologists visiting them at frequent intervals, but there are few of these hospitals so inaccessible that an occasional visit from an outside neurologist might not be accomplished.

REQUIREMENTS OF A HOSPITAL FOR THE STUDY OF SCIENTIFIC NEUROLOGY.

The requirements of a hospital for the scientific study of psycho-neurology and what such an institution might, and probably would, accomplish under the guidance of a wise and eminent alienist will now be outlined.

If you will excuse the repetition, I will repeat that I do not wish to be understood as ignoring the great importance of the practical care and treatment of persons afflicted with mental diseases. I fully recognize that the scientific study of psychiatry is secondary in practical importance to the care and treatment of those that are mentally sick. I do believe, however, and I apprehend that I shall not meet with many who hold to a contrary opinion, that the hospital, be it general or special, that affords her patients the best scientific study of their diseases, will also give the most humane and skilled care and treatment.

As I remarked at the beginning of this address, I shall limit myself almost exclusively to the scientific aspect of psychiatry. What I may say in regard to the practical workings of a hospital for the alienated will be merely incidental.

When practicable the hospital should be located within easy access to a large city. The plant of such a hospital, when supplied with all necessary arrangements for the scientific study of psychiatry, is expensive, and if its situation is the best that can be possibly obtained and the buildings properly constructed, it may be built to accommodate as many patients as may be desired without fear of detriment to the best interests of the inmates.

The administration building should be sufficiently large for the purposes for which it is designed, and connected with it should be sleeping apartments for the officers, resident physicians, nearly all the help, including apartments for the trained nurses, so that all the employ  s could be kept under the eye of the general supervisor. The architecture of such a building we may leave to individual tastes; it does not concern us here.

A special hospital and operating room. Connected with every large hospital devoted to the treatment of mental diseases, should be a small hospital for the treatment of surgical cases, and for the care and treatment of the insane who may develop acute physical diseases, such as pneumonia, typhoid fever, etc. A prominent feature of such a hospital should be a well equipped surgical operating room. But few of the large hospitals for the alienated are so arranged that those suffering from severe bodily sicknesses can receive the proper care and attention. The surgical treatment of the insane is often neglected because the necessary facilities are not at hand for the proper aseptic management of cases of surgery of the brain.

The grounds should be ample and a large farm should be attached. The buildings for the patients should vary in size from one containing a few rooms to one in which 50 or 100 persons may be comfortably accommodated. The larger buildings should be for the indigent sick and the smaller ones for those who are able to pay for their care.

Medical Director. The chief officer should be a physician, and I can think of no better title for him than *Medical Director*. He should be a man of energy and approved executive ability. He should be a person of broad intellectual culture, an alienist of undoubted reputation, and practically conversant with all the means known for psychologic and psychiatric research. He should receive his appointment at the hands of the Board of Directors, which should be composed of the most enlightened physicians of the state. His term of office should be for life, unless cause for his removal should arise. His duties should be: To keep himself familiar with the conditions and needs of all the inmates; to inspect all the histories and records of examinations of the patients; to keep supervision over the assistant and resident physicians, the psychologist and pathologist, to see that they properly perform their work; to counsel with the assistant

physicians when his services are required in any special case; to aid in instructing the resident physicians; to assign to each physician his duties; to conduct or preside over the regular scientific discussions of the medical officers of the hospital; to keep a general supervision over the officers of the executive side of the hospital; and to act as arbiter, in the absence of the Board of Control, in all cases in which such action is needed. There may be a difference of opinion in regard to the place of residence of the medical director and to the propriety of his being permitted to do any private practice. Personally, it seems to me that he will be fresher for his work and better fitted for it in every way if he lives outside the hospital grounds, comes in contact with physicians and devotes a few hours each day to office and consultation work. His hospital experience and duties pre-eminently fit him for a consultant in mental and nervous diseases, if he is not kept constantly within the enclosure of the hospital.

Assistant Physician. There should be one assistant physician for every 50 patients. † He should be selected by the Board of Control, which is composed of physicians, solely on account of his fitness for the position, and when possible, he should be chosen from among the resident physicians of the hospital. His tenure of office should be for life, unless removed for cause. His duties should be to examine, with the resident physicians under him, each patient on admission to the hospital, revise the history, make the provisional diagnosis, submit the written records of the history, examination and diagnosis to the medical director for his approval; to see that they are written in a book kept for the purpose; to keep a continuous supervision of each patient under his care; to conduct the treatment, subject to the supervision and approval of the medical director; to have the resident physician write at his dictation any change of symptoms that may occur from time to time in the cases; to make re-examinations as often as may appear desirable; to see that specimens of urine, blood and sputa are sent to the pathologist as frequently as may seem necessary; to see that continuous records of the cases are kept written by the resident physician in the book kept

† In those hospitals in which the chronic insane form a large proportion of the population; one assistant physician to every 100 patients would be sufficient.

for the purpose; to report to the medical director any pronounced change in the symptoms of any case and summon him in counsel when they seem grave; to keep a supervision over the work of the resident physicians and nurses in his department; to report to the medical director any neglect of duty on the part of the psychologist, pathologist or of any one whose work comes under his supervision; to instruct the resident physicians in the wards and in class by lectures; to lecture to the nurses at stated times; to attend post-mortem examinations; and to take part in writing up cases for reports and in the scientific discussions of the medical staff. I am of the opinion that the assistant physicians might, with advantage to the patients, to science and to themselves, reside outside the hospital grounds, subject to a summons from the hospital at any time, night or day, and be allowed to engage in private practice.

Psychologist. To fill this position properly requires a man of a high order of attainments. He should be chosen for his special fitness for the work and his term of office should be for life, unless removed for cause. The remuneration should be sufficiently large to enable him to devote his entire time to the work within the hospital. Every possible means that will facilitate his work should be afforded him. While his department should be as nearly independent of the other scientific departments as possible, yet he should work subject to the approval of the medical director and in harmony with the other physicians of the hospital. He should be required to deliver lectures or read papers at stated intervals before the scientific workers of the hospital and to these lectures all should be admitted who desire to attend. He should be required to publish two or more scientific papers each year, and make a report of the work done in his department as often as required by the chief medical officer. He should record, or have written in a book kept for the purpose, a careful record of all work done in his department.

Pathologist. The pathologist, who should also be a bacteriologist, should be thoroughly competent for his work. He should receive the appointment for life, unless removed for cause. He should be well paid and required to devote all his time to his work in the hospital. He should promptly and thoroughly examine the fluids of the body sent to him by the physician of the hospital, make and keep records of the same and report the

results as soon as possible. All bodies, on which permission for post-mortem examination can be secured, should be subjected to a most thorough and exhaustive examination, both macroscopic and microscopic, and the pathologist should see that an accurate record is kept of such work. He should be required to deliver lectures on his subject, publish papers, make reports as frequently as required by the medical director, and take part in the scientific discussions of the medical officers of the hospital.

Resident Physicians. There should be one resident physician for every 25 patients. † Before a graduate in medicine is eligible for this appointment, he should have served one or two years as medical resident in some general hospital. He should be chosen by competitive examination, should have shown a liking for research, and exhibited powers of close and accurate observation. He should serve without salary, and his term of service should not be less than two years. His general duties should be such as are assigned him by the assistant physician under whom he works, subject to the approval of the medical director. In addition, he should be required to witness all post-mortem examinations, attend all scientific lectures if possible, do a certain amount of work in the pathologic laboratory under the supervision of the pathologist, and make written reports of cases as required by his superior medical officers.

The Scientific Society. Connected with every well arranged hospital for the study and treatment of mental diseases should be a society for the scientific and practical discussion of medical topics. Such a society would, of course, be composed principally of the physicians connected with the hospital, but physicians without the hospital should be encouraged to join the society and participate in the discussions. An interchange of opinions between the alienist and general practitioner of medicine would be beneficial, both to patients and physicians, and serve to bring the alienists of the country into closer contact with the great body of the medical profession. The general adoption of such a plan would soon make hospitals for the alienated centers of learning, teaching institutions, really small post-graduate schools, in which advanced instruction might be given, not only in psychiatry but in neurology, psychology and pathology. The time may come

† One assistant physician to every 50 patients suffering from the chronic forms of insanity might be ample.

when the most eminent neurologists of the country will be those who are or have been physicians in hospitals for mental diseases.

Training School for Nurses. No hospital, special or general, can be conducted on strictly scientific principles without efficient nursing, and no nurse is competent to co-operate in scientific work until she has been thoroughly trained. The training schools connected with the hospitals for mental diseases should be for post-graduate work. Every nurse before she is eligible for the position of nurse in such a hospital should be a graduate of some training school connected with a general hospital. It is not right to dismiss all the faithful attendants, who have acted as nurses, and who, perchance, have been connected with hospitals for mental diseases for many years. Is there any hardship in the manner in which Dr. Thoms and the Commissioners of the Colorado State Hospital are solving this problem? A course of instruction for the attendants of the hospital has been established. Forty or fifty lectures are given these attendants each year for a period of two years. At the expiration of that time, all who are able to pass a satisfactory examination are retained as nurses, the unfortunate ones are dismissed as incompetent. By a resolution of the Board of Commissioners, passed October, 1896, on or after January 1, 1897, nurses applying for positions in this hospital must present satisfactory evidence of having graduated from some good training school for nurses. After a graduate nurse enters one of these special hospitals, his or her lectures and training should not cease until a diploma for post-graduate work has been earned. I do not believe that our hospitals for mental diseases should establish training schools for nurses, take as pupils untrained help and send them out as trained nurses within two years. Could such a graduate, except in rare instances, secure the position of head nurse in a first-class general hospital? I think we are all agreed that a physician who has had two or three years' training in a general hospital would make a better resident for a special hospital than he would without such general training. If this rule applies to the qualification of the physician, should it not also to the fitness of the nurse?

How can these changes be brought about? How can asylums for the insane be transformed into scientific hospitals for the study of psychiatry and for the care of those who are mentally sick? How can we get rid of the dread and horror of insanity and the insane,

and teach people to regard those who are afflicted mentally with the same sympathetic compassion as they do persons who are stricken down with some fever? How can we effect a change in public opinion so that it will no longer be thought that all the State has to do for the insane is to rear large structures and feed and clothe the inmates at the least possible expense?

The desired changes must come from within the ranks of those of the medical profession who are most interested in the study of mental diseases and in the care of the alienated. They will never have their origin from without. I have tried to show you that the alienists and neurologists should be equally interested, and equally expert in psychiatry and neurology. It is to the combined and harmonious action of these specialists that we must look for advancement in psychiatry. Neither the alienists nor the neurologists alone can accomplish one-fourth the good that will result from the concerted action of both. If this be true, and I think no one will doubt it, it behooves the alienist and neurologist to form closer relations with each other and to work as one man in the advancement of psycho-neurology. It seems to me that the first great step in unity of purpose and action might be effected by the union of the American Medico-Psychological Association and the American Neurological Association into one association which might be known as the American Psycho-Neurological Association. † We need not regret one association or society less in this country. Indeed, I have sometimes thought that it would be well for some enterprising American to organize a society for the express purpose of preventing the formation of all new societies.

The next step in the advancement of the cause of psychiatry might be made by all the hospitals for the alienated establishing the positions of psychologist and pathologist. If the hospitals were so located that the assistant physicians could reside outside the hospital enclosures, engage in private practice and be required to spend a certain number of hours each day in hospital work, much might be accomplished in diffusing a wider knowledge of psychiatry and in creating a greater interest in those who are mentally afflicted. If a scientific society was formed

† Such a union of these associations would result in the adoption of a single medium by which the transactions of the combined associations would be published.

by the physicians connected with each hospital for the alienated, and lectures given regularly to physicians, constituting in reality a post-graduate course on pathology, psychology, psychiatry and neurology in general, these hospitals, their patients and physicians would be less in a world by themselves, would be better understood, and a public response to their needs would be less tardy and more generous than is the case to-day.

I have said almost nothing of the general executive and economic management of hospitals for the alienated, believing that this and the scientific department should have as little relation to each other as is practicable, except that the medical director should have general oversight and authority over the entire affairs of such an institution.

If the assistant physicians were allowed to reside outside the hospital grounds, and to engage in private practice, it might be advisable to divide these into two classes; the more eminent might be termed consultants, and those with less experience, assistants. Consultants in all departments of medicine might with advantage to the inmates be connected with every hospital for mental diseases.

In closing, I wish again to thank you for the honor which you have conferred upon me, for the patience with which you have listened to me, and above all, for this opportunity to advocate a closer relationship between the alienist and neurologist, if a union of these is not possible, and to present to you a plan, imperfect though it may be, for the study and advancement of scientific psychiatry.

You may regard my views with reference to the scientific management of a hospital for the mentally sick as a mere dream. Call the plan as outlined, utopian, if you will, but remember, if all of us, alienists and neurologists, could work together as one man in the investigation of psycho-neurology, that which may seem impracticable or even impossible in the slow progress of to-day, may be realized as an achieved fact in the to-morrow of scientific advancement.

INSANITY DEFINED ON THE BASIS OF DISEASE.

By C. H. HUGHES, M. D.,

Professor of Psychiatry and Neurology and President of the Faculty of Barnes Medical College; Editor *Alienist and Neurologist*, St. Louis, Mo.

The subject of the true nature and definition of insanity has always been one of profound interest to medical men, to philosophers, to medico-jurists, and to alienists especially. The student of psychiatry has not failed to observe a gradual evolution in the interpretation of that aggregate psychical phenomena which we have come to recognize as insanity, or as representing the aggregate insanities, for by custom we class all mental aberration under the one term, insanity. In the earlier ages insanity was observed and described purely in its psychical aspects. Its unfortunate victims were visited by the anger of the gods. Galen, in his definition of insanity, was one of the first, along with Hippocrates, to perceive that there is a physical condition. He had a glimpse, like Moses on Mount Pisgah, of the promised land. He had a glimpse of the true condition of mental aberration when he described it as *delirio sine feber*. He knew there was delirium and he knew there was an absence of fever, and that is the best and most distinctive diagnostic sign we have to distinguish the ordinary forms of insanity from the delirium of fever. Of course, we have post-febrile and ante-febrile insanity.

Connolly defined insanity upon the basis of its psychical symptomatology. Blackstone seems to have gotten a glimpse of the true nature of mental aberration in its somatic and psychical aspects when he defined insanity in this wise: "A lunatic *non compos* is one who hath had, but by disease or grief or other accident hath lost, the use of his reason." This view of mental aberration, the standard of comparison being the individual with his former self, seemed to have been lost sight of by the

cx

medical men of Blackstone's age and was not brought prominently before the alienistic mind until Andrew Combe introduced the standard of comparison of the individual with his former self and as a definition said that a man affected with insanity had undergone a change in his natural habits of thought, feeling or action. Connolly considered insanity purely in its psychical aspects and regarded the man insane when there was impairment of the reasoning or comparing faculties; a purely psychical definition, one which does not embrace all forms of insanity and which includes men whom we are accustomed to regard as sane. A man may not be perfect in his comparing faculties and still be sane. All men are not equally expert, or equally competent, or equally logical in the manner in which they use their reason or comparing faculties and the result of offering such a definition in court would be that the expert witness would be easily confounded and he might be confounded with the just statement that such a definition might include a large portion of mankind in general, especially those who do not agree with us in their views of certain subjects. It was left to Esquirol to detect the relation of somatic with psychical defect in mental aberration, when he described it as a *cerebral affection* characterized by disorder of the intelligence and the will. But then Esquirol made no provision for those forms of insanity with which we are now quite familiar and with which he, himself, was quite familiar, the impulsive forms showing homicidal impulses, sudden epileptic automatism and other states. Thus *mania transitoria*, which we know is so often associated with conditions of psychical epilepsy, is not well provided for in that definition. Our immortal colleague of the past, Isaac Ray, whose delineations of mental aberration have never been surpassed by any writer, taking the definition of Connolly and Andrew Combe and coupling them with conditions of disease involving the brain, approached nearer the clearest conception of the subject of any writer of his day with whom I am familiar. When he said that insanity is due to disease of the brain producing a change in the natural habit of thought, feeling or action of the individual, he got upon ground that was to the physician logical standing ground, impregnable to any assault that might be made against the psychological expert in court, and it enabled physicians who stuck to it, to always sus-

tain themselves with credit and their profession with honor. The only trouble with that definition was with the forms of mental aberration connected with inherent organic heredity, teratological defect, transmitted conditions of the brain, those conditions of insanity which had appeared in the individual and abided with him from early life as a congenital heritage of mental defect. We see in all these contributions to the subject of mental aberration what we see in every department of science and every department of human research; we see the natural evolution from the obscure to the more perfect light, from dim discernment to the clear light of the sun of scientific experience. We see that everywhere; in every condition that we attempt to interrogate. Combe characterized insanity as a prolonged departure, etc., without adequate external cause, from the natural habits of thought, feeling or action, but the departure from the natural may be exceedingly brief in some cases, as in imperative conceptions, the morbid impulsions of psychical epilepsy or mania transitoria.

Some insanities are just as precipitate and brief as the epileptic convulsion, the epileptic arterio-spasm which precedes them and which they supplement as in psychical epilepsy. But those who preceded us had not reached the clear conception which we now have of the inter-relation of the brain and mind. Maudsley, following Herbert Spencer, in his *Psychology of the Human Mind*, gave to medical men something tangible upon which to present the condition of the aggregate phenomena which we call insanity. And now comes the neuron theory and its relationship to mental disease, and now do we certainly know that there can be no such thing as insanity without disease primarily or secondarily or coincidently involving the brain. We stand upon clear ground with all the mists blown away by the researches of psychology, and psychiatric observation, and we ought to be absolutely impregnable before any court in making definitions of insanity. It is no longer necessary to define insanity as in Shakespeare's *Pollonius*, "To define true madness, what is't but to be nothing else but mad." We no longer have to beg the question. We understand that insanity stands on the same basis as all other diseases, plus another organ. Not exactly as the liver secretes bile in its physiological state, as the stomach secretes gastric juice, or as we would say

now, as the peptogenic glands secrete gastric juice, does the brain secrete mind. We do not now express the formula in the exact phraseology of Cubannis, but we say as the brain in good anatomical condition is necessary for the physiological expression of mind, so the mind when it expresses itself to the world in a pathological manner, obeys the laws of all other diseases and its organ, the brain, is wrong either functionally or structurally, primarily or secondarily, either in the intimate structure of the neurons or in their relation to each other in the cerebral cortex, or by reason of their abnormal blood-supply or by reason of changed conditions of nutrition, of metabolism, or whatever it may be. Now by the aid of modern research assisted by the microscope, the test-tube and the crucible, we do know that there can be no expression of mental derangement without there is a substratum of cortex disease, either in the neuron, in the enveloping membranes of the brain, in the nourishing blood-supply, in the behavior of the vaso-motor mechanism, or remotely in some of the organs of the body affecting the brain so as to cause these conditions, and we need never be at sea before any court, before any jurist, in giving our views of insanity as a disease primarily or secondarily involving the mind of the individual so as to produce in him a change in the natural habits of thought, feeling or action—a change of his normal, natural mental expression by which, and by reason of the disease underlying all, he is placed out of harmony with his surroundings, with his natural self or with his normal family type of mind.

THE SCIENTIFIC BORDER-LINE BETWEEN SANITY AND INSANITY.

By EDWARD C. RUNGE, M. D.,
Superintendent City Insane Asylum, St. Louis, Mo.

Precision is a prerequisite to the best achievements of modern science, just as speculative vagueness is inimical to its progress through the steadily growing maze of natural facts. Precision is only to be attained by methods of scientific induction, i. e., the logic of fact must precede the logic of thought. The era of metaphysical misconceptions in psycho-pathology is happily a thing of the past. Stahl's "soul diseases" have joined the fantastic ranks of human superstitions and historical curios. Though we may cling for the sake of convenience to time-honored nomenclature in discoursing upon mental or psychic diseases in contra-distinction to cerebral diseases without psychic manifestations, we stand boldly united in the axiomatic assumption that psychic functions are intimately connected with the substance of the psychic organ, the brain. DuBois-Reymond's dictum, "*Semper ignorabimus*" will ever meet us in our excursions into the realms of human soul-life; our limitations are ever to be shown by a mark-stone near which human knowledge and human faith clasp hands in kindly greeting. Psychological research has a long way to travel before reaching this mark-stone; the work done thus far is still in the phase of pioneering.

Cerebral anatomy, pathology and chemistry must surely give up their treasures, thus adding zest and life to the growth of the youngest sprig of modern science, to physiologic psychology. Whether we follow Munk and Flechsig in assuming the strictly circumscribed localization of psychic functions, or their opponents, Ferrier, Goltz, and Wundt, we are certainly justified in accepting as an indisputable fact the existence of some cortical

areas as centres of psychic function. We are also safe in advancing the proposition that the normal development of these centres is vitally dependent upon the peripheral life of the organism, as without the latter the organism would never pass beyond the "Caspar Hauser" phase of intellectual and soul existence.

Placing ourselves firmly upon these fundamental psychologic facts, we would encounter no difficulty in formulating a simple and satisfactory definition of insanity. It could mean nothing else than the chief symptom of an organic or functional disease of one or more psychic centers. This would also mean that the question of a border-line between sanity and insanity would be solved in the following simple way: Any individual whose brain manifests abnormal psychic function is to be considered insane, regardless of etiological factors, duration and clinical picture presented. Such psycho-asthenic conditions as moral and intellectual imbecility or idiocy, are excluded here from consideration as being due to developmental arrest and not directly to cerebral disease. A harelip, a cleft palate or a foramen ovale remaining patent after the close of foetal life, are malformations and not diseased conditions. The psychic centres with their late and slow developments are, as a matter of course, apt to be unduly influenced by disease affecting the brain during the period of its growth; still the resulting imbecility and idiocy are but manifestations of an undeveloped and not of a diseased brain.

Has modern psychiatry thus far declared itself satisfied with such a simple definition of insanity? Certainly not; and the principal reason for this reluctance must be sought in the irresistible desire to reserve a special scientific place for the brain among the organs of the human body. When I speak of the brain I confine myself to its psychic centres whose disease is chiefly manifested by psychic disturbances. We have grown thoroughly accustomed to subdividing pathologic states of all lower organs into organic and functional, i. e., such as do not yield any evidences of structural change to our present methods of investigation. Whether we face a neurasthenic or an alcoholic gastritis we are certain of the fact that in either case a disease of the stomach obtains with suspended or profoundly impaired function. Even the spinal cord which is so closely

allied to the brain by developmental, structural and functional ties, has no claim upon any other classification of its disturbances. Not so with the brain. It is true that all authorities on psychiatry broadly classify mental diseases as functional and organic, but religiously decline to consider as insanity such mental disturbances as are superinduced by an acute poison as e. g., alcohol, or by constitutional disease of a toxic nature as e. g., typhoid fever. Thus is created a third class of mental diseases, a class with which psychiatry proper should have nothing to do, except perhaps to give it a passing notice.

In reading the works penned by the foremost psychiatric authorities, one involuntarily wonders at the great amount of ingenuity displayed in the erection of an impassable rampart at a point where, in my opinion, a connecting bridge would answer the demands of sound scientific reasoning. In the chapter devoted to the consideration of conditions analogous to insanity, Krafft - Ebing says regarding acute alcoholic intoxication: "It is really nothing else than an artificial insanity." This he follows up with a graphic pen picture of a classical case of such intoxication, which passes by degrees from slight maniacal exaltation at the onset into a state of complete stupor, often simulating closely an apathetic terminal dementia. Why should such a profound psychic disturbance be called "artificial"? Certainly not because the disturbing drug reaches the psychic centres by way of self-administration, or still less because in acute alcoholism we are well aware of the pathogenic factor, while in so called true insanity the pathogenesis is but too often hopelessly obscure. I hold that the line drawn by Krafft-Ebing is artificial, and this is strongly confirmed by his own words at the close of the chapter: "The similarity between artificial insanity and the genuine variety is also shown in some individuals of a peculiar predisposition, in whom a plain drunk at once develops into acute delirium or transitory frenzy. In other cases alcoholic intoxication is the immediate cause of genuine chronic insanity". According to Kraepelin, whose opinion finds general acceptance, the delirium of acute constitutional diseases is caused by symptomatic irritation of the cerebral cortex. The delirium is said to differ from those disturbances which *tradition* designates as psychic diseases, by its evanescent nature, by profounder participation in the pathologic process, of the sensorium,

by incoherence and confusion of the perceptive faculties, and lastly by the excessive implication of the central sensory sphere as manifested by a great wealth of hallucinations. The transition from the delirium of acute disease into chronic spontaneous insanity is not infrequent. This view resting entirely on traditional basis, is, I think, readily proved untenable upon closer examination. Can an attack of transitory frenzy ever be excelled in evanescence? An individual, to all appearances in possession of perfect psychic health, is stricken suddenly, without warning or a single prodromal symptom. In spite of the nearly total loss of consciousness and other ominous symptoms the attack leaves the sufferer psychically intact. Although transitory frenzy is generally treated as a true insanity, Krafft-Ebing has his doubts about the correctness of such classification; he expresses himself as inclined to place it among the symptomatic disturbances. What is our present classification of psychic diseases chiefly based on if not on the clinical picture displayed by them? We have surely no good and sufficient reason to consider a mania, a melancholia or any of the other psychoses as anything else than symptomatic disturbances, i. e., they are the clinical expression of some pathologic process affecting the psychic cerebral centres. Returning to Kraepelin, I may well ask whether the sensorium is ever more profoundly affected than in the *delirium grave sive acutum*? Then again, some cases of hallucinatory delirium can hardly be surpassed in their wealth of hallucinations and their utter intellectual confusion.

From the foregoing it can be seen that the differential points between the delirium and so-called true insanity are only comparative, arbitrary and artificial; nevertheless, they are treated as wholly dissimilar entities. To prove that such distinction is not well grounded, I will consider the matter from the point of view of pathogenesis, of clinical symptomatology, pathologic anatomy, therapeutics, and of medico-legal science. As a type for the deliriums, I select the one appearing in the course of typhoid fever, which is apt to cause such profound psychic disturbances as to have earned the designation of "*febris nervosa versatilis*" or "*febris nervosa stupida*". What is true of typhoid will hold true of any other diseases which are accompanied by psychic manifestations as e. g., croupous pneumonia,

acute articular rheumatism, intermittent fever and others. In the following I confine myself strictly to an antithesis of the typhoid delirium and the functional psychoses as they are most closely related to each other.

While the pathogenesis of the febrile delirium has not been fully established there is no doubt that the increase of the blood temperature, and the presence in the blood of some products of decomposition, of specific toxins, or possibly of pathogenic micro-organisms, act as irritants to the psychic cerebral centres. The heightened temperature cannot be looked upon as the exclusive element engaged in the production of the delirium; not a few cases, especially of croupous pneumonia, in strongly predisposed individuals, have been observed, in which the delirium outlasts the fever. We are certainly justified in assuming that the disturbances of psychic function in acute constitutional diseases are intimately dependent upon the infection or the nutritional disturbances following in the wake of the infection in cases of "inanition" delirium. What can be said of the pathogenesis of the so-styled true or chronic insanity? When we omit from consideration the general predisposing causes of civilization, sex, age, etc., and the individual predisposing causes as heredity, neuropathic constitution and education, there remain to be considered the accessory or exciting causes. The manner in which the exciting causes affect the brain tissue is not known but we may broadly assume that they produce more or less profound disturbances of general and cerebral nutrition. We also know that experimental evidence has been adduced to prove that auto-intoxication may play an important rôle in some cases of functional psychosis, particularly of melancholia. The verification of these experimental findings would add another link to the connecting chain between the psychoses and the deliriums. How closely they may be linked in the very same patient, I will show by the case of a woman suffering with typhoid fever, which I quote below from Krafft-Ebing's report. This patient passed gradually from a delirious state into that of stuporous melancholia. The first symptoms of the latter appeared while the body temperature was ranging between 100.5 and 104. What scientific reason have we to draw a sharp line between the pathogenesis of the delirium and the psychosis? I believe that the

only excuse for such a course is to be sought in the desire to uphold blindly a preconceived, purely theoretical notion without regard to the facts actually observed.

Here I may be pardoned for a slight digression. In perusing the literature at my disposal I do not find any mention made of the possible role played by heredity as a predisposing factor in the delirium of constitutional diseases. In most of our hospitals this point is entirely lost sight of, which should not be, as the collection of statistical data in this direction would, to say the least, be highly desirable. The great psychic upheaval produced by infinitesimal quantities of alcohol in some psychically defective individuals, would point to a possibility of another toxic agent reacting with greater intensity on a vulnerable brain than on a brain that escaped the imprint of baleful heredity. I should by all means advise that the record at least in cases of delirium-producing diseases should embrace a minute inquiry into insane heredity of the patient. The ultimate result of such inquiries may furnish further proof of the non-existence of a dividing line between the symptomatic and true insanities.

Entering upon the consideration of this question from a clinical standpoint I cannot do better than cite in abstract the case reported by Krafft-Ebing.

Mrs. Petrisch, *set.* 31, was taken ill on the 28th of October, 1881, with a fever following an initial chill. On the 30th she escaped from her home, was caught and brought to the hospital on Nov. 2d. Her temperature was 102°. A few hours after her arrival, the patient had to be transferred to the insane division; because she manifested great restlessness, and hostility toward the people around her, whom she attempted to strike. She refused to take food: Diagnosis of typhoid fever was made. She became more stuporous. November 11th, while the temperature was ranging from 100.5° to 104°, the first symptoms of melancholia appear. The patient says that she is conscience-stricken; that she has committed most horrible crimes; that she ought to be thrown out on the dung-pile in the yard, etc. Strong resistance against every one around her. Food refusal, partly on account of ideas of self-depreciation, partly because Christ had told her if she would not eat she would save unfortunate souls. At the end of November defervescence commences, and the typhoid symptoms begin to disappear. The middle of Decem-

ber sees the patient free of fever, but in spite of generous alimentation she remains profoundly anaemic, emaciated, exhausted and stuporous. Now and then the night rest is disturbed through visions of the dead and black figures. She hears voices calling her bad names. In January, 1882, the patient becomes perfectly stuporous and filthy; powerfully passive resistance, mutism, no reaction to sticks with pin. The melancholic symptoms are submerged by the stupor; they reappear only between the 17th and 21st of January. This is followed again by melancholic delusions of self-depreciation and grandeur (she is the Virgin Mary). At the end of June there are evident signs of convalescence, and finally the patient recovers.

According to Krafft-Ebing this case presents to the end of November the picture of a fever delirium, and afterward that of *melancholia cum stupore*, i. e., of a functional psychosis. I could not have selected a more striking case for my purpose as the psychic manifestations present but insignificant variations through the entire course of the disease. Supposing that we did not hesitate to fit the actual facts forcibly to our theoretical notions, and claimed that the case clearly presented two conditions closely connected as regards time and sequence, but still differing vitally as to their fundamental nature, we might put forth as a differential point the apparent fact that one disease ran an acute while the other ran a chronic course. Why should we not draw a radical distinction between an acute bronchitis and a chronic bronchitis, in which the former had terminated? I may add that the termination of a fever delirium is very similar to that of a functional psychosis, i. e., in recovery, secondary states or terminal dementia.

To prove that anatomical findings do not lend themselves to an argument in favor of the arbitrarily established border-line between the psychoses and the deliriums, I may be allowed to quote from some authorities. First as to psychoses:

Scholz says: "There is but rarely a parallelism established between the mental disease and the anatomical findings; many different forms of the former are apparently accompanied by the same results at the autopsy. We find, for instance, a serous or purulent lepto-meningitis in fresh cases of melancholia or mania as well as in those of chronic insanity and of paralysis, or the reverse; the same clinical form of insanity presents dif-

ferent anatomical pictures. Thus the autopsy on acute maniacal cases may sometimes show the existence of a purulent meningitis or of a lepto-meningitis, and then again nothing but a congestion of the pia and the encephalon. We are not to assume, however, that tangible anatomical changes are invariably manifest; frequently the pathological process seems to have been superinduced by more or less rapidly changing disturbances of circulation in the blood vessels and lymphatics."

Ziehen expressed himself as follows: "The gross anatomical and microscopic examination of the cerebral cortex has not yielded any positive results thus far. Mania is consequently to be classed as a functional disturbance. The different theories advanced in explanation of the nature of the disease as depending on circulatory changes in the cerebral cortex are not founded upon actually observed facts." The same is true regarding the other functional psychoses.

Kirchhoff points in a few words to the negative results of anatomical investigation conducted in this direction.

Von Krafft-Ebing says: "The majority of psychic diseases like many other maladies of the central nervous system, present negative anatomical results; hence they must be classed with the so-called functional diseases, with conditions pointing to molecular changes and to disturbances of nutrition."

Now let us turn our attention to the delirium in typhoid fever. I have scanned carefully the exhaustive reports of the Johns Hopkins Hospital, Vol. IV and V, and have found in the record of the autopsies on the fatal cases no mention made of any brain lesion except that in one case without foregoing delirium, a thrombosis of the left middle cerebral artery was discovered. I naturally concluded that the other cases did not give evidence of any brain lesions. As no other monographs on the subject seem to be obtainable I had to be satisfied with citations from text books.

In Osler's we find: "There are very few changes met with. Meningitis is extremely rare. It was not present in any one of my autopsies, and occurred in only eleven of the two thousand Munich cases. The anatomical lesion upon which the aphasia—seen not infrequently in children—depends, is not known. Possibly as Leyden states, it may be due to slight encephalitis."

From Wood and Fitz, I quote as follows: "Gross alterations of the brain and its membranes are infrequent, although a meningitis at times follows a complicating inflammation of the middle ear or acute parotitis. Microscopical changes affecting the ganglion-cells have been described by several observers."

Struempell says: "If we seek the cause of these nervous symptoms which are often so severe, we find that the anatomical changes in the nervous system, including the brain, bear no relation whatever to the severity of the symptoms observed during life. We sometimes meet with minute hemorrhages in the cerebral meninges, or meningeal opacity, or oedema, or a moist condition of the cerebral parenchyma; but the connection of these and similar changes with the symptoms of the disease is often more than doubtful. Nor can the microscopic alterations in the brain, which have been reported, be regarded as important and authoritative. It is only in very rare cases that large cerebral hemorrhages of purulent meningitis have been found. As to this last we should always be very cautious in making a diagnosis, as symptoms which would seem to be most conclusively meningeal, such as stiffness of the neck, rigidity of the whole spinal column, and occipital headache, may appear in typhoid patients, and yet the autopsy show no trace of meningitis."

Bollinger in his "Atlas und Grundriss der Pathologischen Anatomie," states in one place that hemorrhages into the cerebral parenchyma occur in severe infectious diseases, and in another place that focal, mostly hemorrhagic encephalitis is, now and then, met with in infectious disease as influenza, measles, typhoid and scarlet fever.

These data seem to be sufficient to show that vagueness prevails in the realm of pathologic anatomy of the fever deliriums and of the psychoses, and no distinction is to be made between them on anatomical grounds.

The therapeutics of delirium follows closely the lines pursued in the treatment of the functional psychoses chiefly of mania. In either condition our main task resolves itself into the maintenance of nutrition and conservation of vital strength. Sedatives, particularly in shape of prolonged baths, tonics, now and then, stimulants, and foremost of all nourishing assimilable food,

constitute in both instances the principal therapeutic measures at our command.

That a delirious patient is to be looked upon as fully as irresponsible in a forensic sense as a patient suffering with a functional psychosis, is so self-evident as not to require any further expostulation. I would suggest that the acute alcoholic be dealt with in a similar way. In case of any transgression against the laws the inebriate should not be made to suffer for the unlawful act performed while under the influence of the drug, but he should be punished for having willfully placed himself in the state of intoxication. I mean as a matter of course only the victim of a physiological intoxication and not the sufferer with dipsomania.

I hope to have proved in the foregoing that the division of psychic disease into symptomatic and genuine, is not founded on sound, scientific reasoning. There are other pathologic conditions of the central nervous system that, in my opinion, properly belong to the domain of psychiatry. In every work on neurology, the psychic disturbances accompanying such organic diseases as multiple sclerosis, tabes dorsalis, and cerebral tumors, are unhesitatingly classed as insanities proper. Not so with those functional neuroses in which the implications of the psychic centres play such an all important rôle; I mean neurasthenia, hysteria and epilepsy.

When we admit that a case of so-called cerebral neurasthenia may at times simulate the profound psychic changes of the prodromal phase of a dementia paralytica so closely as to render an error of diagnosis not only possible but even excusable, we put neurasthenia at once in its proper place. I do not think that there ever was a case of simon-pure spinal neurasthenia, in other words, every neurasthenic is to a variable degree a psychoasthenic. The question is one of degree only, the varying intensity of the disease cannot possibly affect its fundamental nature. A pathologic lowering of psychic functions takes a prominent part in the course of every case of neurasthenia, and at times it overshadows every other symptom that helps to make up a classical picture of the disease.

This is true of epilepsy. What more profound affection of an organ can be thought of than one manifested by the complete cessation of its functions? The impervious veil of entire sus-

pension of consciousness thrown about the psychic centres during an attack of epilepsy, puts the latter among the psychic diseases. This view is rendered still more convincing when we consider that impairment or loss of consciousness constitutes the most characteristic symptom of epilepsy, common to all of its clinical varieties.

In hysteria the psychic make-up of the patient plays such an important rôle as to stamp the malady one of chiefly psychocerebral origin. There is hardly a symptom or stigma of the disease that is not at bottom due to the perversion of psychic function.

In conclusion I may briefly sum up my argument as follows: Firstly, Insanity is the symptom of any pathologic process implicating the psychic centres of the brain; hence the border-line between sanity and insanity lies at a point where brain-disease parts ways from brain health, by brain being meant its psychic centres. Secondly, The words "Insanity" and "Insane" should apply to any condition manifesting deviations from the normal psychic functions. If objectionable we should not hesitate to eradicate these terms and find others less obnoxious. The disappearance from our scientific vernacular of these words would be hailed with genuine satisfaction as they carry with them an atmosphere of mediaeval superstition and prejudice. Thirdly, Such views as propounded in the foregoing would assist in dispelling the worst misconceptions of insanity and the insane. No opportunity for systematic propaganda should be missed. After insanity is once for all accepted as a symptom of actual disease of the brain, a disease like any other, amenable to treatment, we who are fighting for rational and truly humanitarian methods, shall meet with fewer obstacles in our efforts to obtain what we need for the successful achievement of our aim.

DISCUSSION.

DR. HENRY M. HURD: It may be interesting to know that in the case mentioned as occurring at the Johns Hopkins Hospital, where following a fatal case of typhoid fever an autopsy was made, there were no mental symptoms whatever. The young man suffered from a comparatively mild attack of typhoid fever, and seemed to be getting along well when he suddenly had a

thrombosis of the branches of the left middle cerebral artery and died in convulsions after a few hours. We have, of course, many cases of typhoid fever which do not come to autopsy, where there are mental symptoms, where we do not know what the actual condition may be. It seems to me that the distinction made between delirium and absolute insanity is an artificial one, but the justification for it is that in delirium we have an evanescent condition which does not require much more treatment than looking after the individual and sustaining his vital forces until he gets well. In insanity we have a prolonged change in thought, feeling and action, as Dr. Hughes has said, which requires special treatment. There is no difference between delirium and insanity, except in duration, and the distinction is made as a matter of convenience to the patient. I was much interested in an address which Dr. Van Gieson made in Baltimore in March last in which he traced an analogy between the condition found in the brain in insanity and the condition found in the kidney in chronic interstitial nephritis, and I think showed conclusively that in dealing with the brain we deal with the same nutritional changes which occur in disease processes in any other part of the body. If we get this idea firmly fixed in our minds we are freed from much metaphysical fog as to what mental disease is. There may be a certain danger however that we will adopt this conception too hastily. About two weeks ago I had an opportunity to listen to a very able address from a Philadelphia physician who went so far as to say that he believed many cases of nervous disease were due to a neuronitis, that is to an inflammation of the neuron. It seems to me that the neuronitis remains to be proven. I have a paper from Dr. Hoch, of the McLean hospital, in which he points out that serious disease of the brain may co-exist with a shrinkage of the neuron, but he believes that it is too soon to generalize from the observations which he has made.

I think all who are engaged in the treatment of mental disease have come to the conclusion that in dealing with puerperal mania we have to do with an auto-intoxication from toxins the product of the puerperal infection. These poison the nervous centres and produce first a condition of delirium and afterwards an actual insanity. No one however can tell where the delirium of puerperal mania ends and actual insanity begins. It would be

proper to say that we here deal with an infective process which produces delirium and insanity and that delirium and insanity are symptoms of the same disease. I wish to thank Dr. Runge for his able presentation of this subject.

DR. H. A. TOMLINSON: It seems to me that the idea of insanity as conceived by the laity, and some members of the medical profession, is well expressed in a letter I received not long ago from a woman whose son is a patient in the hospital. In referring to the mental condition of her son she said, "He is not insane, only crazy." The idea of insanity is associated with commitment to a public institution for the insane. The persistence of this conception of the patients in a public institution as *quasi* criminals is shown by the stigma attached to their residence in the hospital; while if they have been cared for at home, no matter how bad their condition, nothing is thought of their condition as affecting their future relations with the public; but the patient from the state institution is always looked upon with suspicion and aversion by all who are familiar with the fact of his commitment and residence. I am and have been for some time interested in the pathological aspect of the study of insanity, and especially in comparing the histological changes found post mortem in those dying insane, with the changes in the brain found in cases of nervous exhaustion consecutive to visceral disease or general septic infection. I have never yet been able to find any specific morphological change in the brains of the insane. The changes are those of degeneration, so well described by Berkley, and indicate at most premature senescence. This tendency to the premature development of senile changes in the cortex, with the resulting mental aberration, I believe to be due to a primary brain instability varying in degree, also that this instability in the nervous system of the child is as often the result of other constitutional conditions in the parents as it is of insanity itself. In my own experience phthisis is quite as common in the parents and relatives of those who become insane as is insanity itself; while alcoholism, cancer and rheumatism follow in the order named. Any condition in the parents which materially lowers their vitality is liable to result in defect in their offspring, and this defect is as often in the nervous system as any other part of the organism. Collateral proof of this fact is furnished by the case of puer-

peral insanity just referred to, where infection from without is considered to be the cause of the condition which gives rise to the mental disturbance; although there are undoubtedly cases of puerperal insanity which follow normal labor. How many cases become insane in comparison with the number of puerperal women, infected or not. Beside, insanity does not necessarily follow most severe labors or occur in those cases where puerperal infection has been most severe. Now with regard to this very attractive theory of psychic centres. It apparently explains very many things, but when analyzed carefully and practical experience is brought to bear upon it, with the detailed study of a whole series of cases, it will be found that the degenerative process is not confined to any one region of the brain; and although the atrophy is usually most marked in the frontal lobes, anterior to the precentral fissure, yet the changes in the cortical cells do not differ morphologically from those which take place in other parts of the brain and even the excessive shrinking in the frontal lobes is only significant of the progress of dementia. When you take into consideration further that, so far as we know, cerebral functioning in relation with mental activity, is but the reception and correlation of the external impressions which come to the brain through the special senses, the avenues of general sensation, and the viscera, to the cortex; also that the nerves of special sense, particularly the optic nerves, have a wide area of distribution, involving the whole cerebral cortex posterior to the fronto-parietal fissure, as well as into the cerebellum, it seems to me a little premature to settle upon any one portion of the brain and call it psychical. Again until it is proven that the changes found in the brain in those who die insane are characteristic only of the condition in which they are found, and are never found in the brains of those who are sane and die of organic degenerative disease, we cannot say that changes found are the cause of the mental disturbance. Beside, the fact that we are not able to differentiate particular morphological changes for apparently specific forms of mental aberration, except in respect to degree, would indicate that the form of aberration was independent of the process of degeneration. While the marked analogy between the changes found in the cortex in insanity and ordinary senescence, coupled with the like degenerative changes present in the vegetative

organs, seems to me to furnish direct evidence that an unstable or irregularly developed brain is always the foundation for the development of insanity; while the degree of instability and form of irregularity will determine the extent and permanence of the insanity and the direction in which it will manifest itself.

DR. RUSSELL: I have to confess that I am still in doubt as to whether it can be truly said in all cases that insanity is the result of physical disease of the brain, or that it is in all cases the result of somatic disease. Clinical experience proves that among a large class it could scarcely be said that they are affected with physical disease, either somatic or cerebral. I can recall to my mind many cases that enjoy the most perfect physical health and the most perfect nutrition, so far as we can discover, and there is no defect of brain power in many of those cases—there may be a defect in quality but certainly not of quantity. They reason logically and soundly from their premises. Of course, their premises are wrong, but their mental powers are strong and absolute and the difficulty is only in the premises. Now, I have a case in mind at the present time, in my own asylum, a man perfectly sound physically, and if that man were placed in court and I were called as a witness to testify in his case and were asked to give a definition of insanity to show he was suffering from brain disease, I should certainly hesitate to give such a definition as that. We know the world is full of paranoiacs. I dare say if this company of educated gentlemen were tested to-day the fact might be proven that we are all suffering from a delusion of some sort—it is often simply a question of degree. These cases usually live long and healthy lives and die of old age or some intercurrent disease. In fact, I had one case die in my asylum last year which was admitted the year I was born and died simply of old age. It would be scarcely correct to say that man was suffering from physical disease and that the condition of his brain was pathological, because, if I understand the history of pathology, it is progressive, and if there is pathological disease of the brain it is usually progressive like the same condition in any other organ of the body. I think perhaps we might be more correct in saying a good deal of this form of insanity, to which I refer, may be the result of anatomical conditions or at least morphological cellular conditions of a

hereditary nature which may be perfectly physiological and without any element of pathology at all, and it is just a question how far our brain cells may change morphologically from education and environment. I think my position may be argued strongly and correctly by saying that our brain cells change largely in proportion to our education and environment. For instance there is a large class of visionary enthusiasts, whom many of us regard as insane, and though their ideas are absurd and delusional to us, it would be scarcely correct to say that in all cases they are suffering from a pathological condition of the brain. It would be perhaps more correct to say that they suffer from external circumstances of birth, education and environment, rather than physical disease of the brain. I think we ought to go slowly and not set up a theory one year that we have to knock down another year. We should be careful and not jump at conclusions and flatter ourselves that we have arrived at a certain definition of insanity which will invariably stand the test of the courts, because we may be very easily tripped up on the questions I have just raised, that a large class of insanity which we meet may not be pathological but purely physiological and functional. While I have very much pleasure in congratulating the two gentlemen who have addressed us on this question, still I think we should be careful about accepting as beyond doubt their conclusions.

DR. ESKRIDGE: I was very much interested in Dr. Runge's paper and I am very glad he *did* bring forward the fact that we should not regard insanity necessarily as a disease. It seems to me it would be much better if students and writers on psychiatry would try to impress the idea on the community at large that insanity is not a disease but a symptom of disease or perverted function. It is simply a perverted function. In regard to the statement by Dr. Tomlinson, I think his stand is well taken if we do not carry it too far. It is well known that if a man or woman with a perfectly stable brain receives a blow on the head, he or she may become insane. The same is true of alcohol. Take an individual not accustomed to alcohol and fill him with alcohol and he will become readily affected. I am very glad to be present and to add my mite in the approval of the things Dr. Runge has brought forward. I think they are timely and that they will have a good effect.

DR. TOMLINSON: I would say in answer to Dr. Eskridge, that if he will follow the life histories of his cases, he will find something to base the recognition of brain instability upon even in those which do not present gross evidence of defect. It is simply a question of degree.

DR. BURR: I was particularly pleased with the portion of Dr. Runge's paper in which he called attention to the importance of regarding the insanities from the same point of view from which we look upon other diseases. Because of the misconception of the nature of insanity in the popular mind hospitalization of patients is very much interfered with. Until the time comes when that aggregation of symptoms called insanity is thought of just as other diseases which take patients to general hospitals, efforts to give timely hospital treatment will frequently fall short.

DR. DEWEY: It seems to me from the remarks made by several speakers, one question has been brought out that is an important one, namely, What is "brain instability" or "nerve instability?" We use that term and sometimes I think, perhaps, are satisfied with saying that insanity has resulted in a certain case from a certain cause, such as traumatism, or from certain other depressing conditions, because "instability" existed. As yet we are not advised in what that "instability" consists. It is one of the things in which study is now in order. Study is clearing up these deeper problems of brain and nerve anatomy, and, perhaps, "instability" will become better understood, and we can say in what it consists. But until we can by the examination of the brain, locate the "instability," or say wherein it consists anatomically, we are not helped forward very much by saying that brain "instability" is the cause of the insanity.

DR. RUNGE: I would just like to say a few words in regard to what Dr. Tomlinson has said. I do not think we have a right to do away in just a word or two, with all the work done, in Germany especially. We cannot do away with all the work on psychology by the little work we are doing in our laboratories. We know there is a psychic organ, although its development may be chiefly dependent upon the peripheral life of the organism. We know there must be psychic centres, wherever they are. If those psychic centres are diseased, then we

find psychic manifestations of disease. Dr. Eskridge, I think, agrees with me, except that I never stated that insanity is a disease. It is a symptom and that is all we can say. Then, as to what the gentlemen say about the functional diseases! What is the word "functional" in a medical sense but a makeshift, but an excuse for ignorance? The lesion must be structural, even if it is only in the molecule. There must be structural changes at the bottom of all the disturbances.

DR. HUGHES: I wish in the first place to say, in reply to all the criticisms which have been made, that there is in my judgment no such thing, abstractly speaking, as a functional disease. You have disorders of function, but the anatomical substratum which underlies all perverted functional expression, is found in the organism, some change of structure either so gross that the naked eye may see it, or so fine that the strongest lens may not discern it. Pope in his *Essay on Man*, speaking of some philosophical conclusions, asks the significant question,

"Of heaven above or earth below,
Say, what can we reason but from what we know?"

Now, gentlemen, we reason from what we know about a good many things which are not discernible by the microscope or revealable to the crucible in the present state of science, and yet we do know that these things are possible and we reason from what we know to what we believe. We cannot prove the existence of an axiom; we know it is so and there is no method of reasoning on it. Shroeder Van der Kolk, in examining thousands of human brains that had passed through the influence of mental aberration and displayed disease post-mortem, said that he had never examined a case that did not reveal evidences either of disease in the brain or morbid conditions of the organism sufficient to justify the conjecture that brain disease existed. I am a little surprised at my friend, Dr. Runge, when he says these things have not been investigated by American pathologists and English pathologists. The book of Bevan Lewis contains more information upon the conditions underlying or proceeding from mental aberration than any French or German book with which I am familiar. Much of it is, of course, from French and German sources for science is a cosmopolite.

In regard to the neuropathic diathesis, that instability of nerve element, which Maudsley, that philosophical writer among writers in medicine, said underlies so much mental trouble. When I was a youth in psychiatry, I read in Maudsley that the instability of nervous element encountered among the insane and those predisposed to insanity was especially revealed before insanity manifested itself by the use of toxic agents, and he asks the significant question—and it is thirty years old to me—Why is it one individual displays delirium under the influence of the untangible virus of a fever when another does not? Why is it that under the influence of alcoholic toxicity one man becomes raving drunk in fifteen minutes on a potation that you or I might take four or five times over without any such effect? Why is it that some who drink to drunkenness know exactly the condition they are in while others under the influence of the same amount of alcohol neither know the condition they are in nor where they are? Maudsley says it is because of that unstable condition of nervous element which distinguishes the man predestined to give way under a stress of influences operating on the human mind which would not disturb the normally constituted individual. Why is it that one man will endure the trials of Job unscathed mentally and be enabled, trusting in Providence to escape the consequences of his environment, an environment like Job's of the greatest trial humanity can endure, while another will yield to mental aberration under one-tenth of the stress? It is because of that neuropathic condition which is diseased; we call it the neuropathic diathesis or psychopathic constitution. It is that condition which, as one of our colleagues has so well said, under the new light given by the neuron theory, causes one person to display the instability which we call hysteria while another holds the integrity of the neurons intact and is not disturbed. Now, I do not consider insanity a disease of the brain, but that symptomatic expression which we call insanity is dependent upon a morbid condition primarily or secondarily involving the brain in every instance. It may be, as Maudsley says, the intangible virus of a fever; it may be the toxic influence of a microbe; it may be some kind of toxæmia; it may be some kind of dissolution change in the blood, as we see sometimes in typho-mania, for instance, or as we see in the delirium

of the fevers; it may be the result of toxic influences, yet it is disease primarily or secondarily involving the brain. Now, it will not do, Mr. President, for us to confront a court or a jury as physicians and undertake to explain the problem of mental aberration and say it is not dependent upon disease. If it is not disease, what business have we with it and why is our counsel sought? Why is our opinion solicited upon this subject? If it is not disease, it does not belong to our province to consider it. We have studied the human organism long enough to know that it never goes wrong in its functions without something being wrong in its structure, and we have studied physics long enough to know as the various forms of motion which are manifest to us, the motion of the lever, the motion of the wheel and axle, varying as they are, are dependent upon varying adjustment, notwithstanding the force may be the same. The motion of the piston rod is dependent upon a force just as much as the motion of the lever. Yet we know there is a force there and a change in form of structure gives rise to altered manifestation or changed symptomatic expression.

Now, what is disease? The trouble about this whole question arises from the misunderstanding or varying conception of what we consider disease. I consider disease an altered molecular activity in an organ, which affects the integrity of the molecule. It may be a small clot of blood passing to the arterioles of the brain and lodging there, and shutting off the blood-supply, for instance, from the speech centre in the posterior aspect of the third left frontal convolution, or shutting off the blood from ideational centres. Or it may be a grosser structural change. Some change of structure somewhere in the organism always precedes and is connected with every altered manifestation of function in an organ, though altered molecular function precedes changed organic structure. Functionally considered, disease is altered physiology, depending upon agencies which we call morbid agencies. Minutely considered, disease is altered molecular action. We do not always see the disease with the naked eye. It is not always gross disease, but in the vast majority of instances, where the interrogation has been made thorough enough, we do know that the vast majority who manifest mental aberration do have a brain primarily or secondarily involved in disease. In the ex-

ceptional instances where we cannot put our finger upon the morbid condition, it is only logical to infer from the symptomatic expression, that there must be a substratum of disease, notwithstanding we cannot demonstrate it. It was our own Ray who propagated the doctrine that insanity was the product of two generations. If you have an hereditary or acquired unstable nerve condition in the individual, is not that a disease? If you have a condition that causes one individual to pass into insanity under conditions that would not disturb another, is not that a disease? The disease may have come from some ancestor, and then we call it hereditary disease. We call it an hereditary degeneracy of nerve element predisposing or predestining one individual to become, from the environments that would not affect another, mentally unbalanced.

DR. RUNGE: I just want to say two words. Firstly, I did not say I could not explain aphasia. That was a quotation from Struempell. Secondly, when I spoke of the German workers, I did not speak of pathological psychology, but of physiological psychology, which is rather a new thing, as you know: and we have no epoch making representative either on this side or in England. That work is done at the present time in Germany.

DR. HUGHES: Allow me to say, I consider Maudsley the most enlightened physiological psychologist of our day, and Herbert Spencer next. And I would like to say, Mr. President, Benjamin Rush had a better knowledge of mental aberration than most of the savants in Europe had in his day.

THE HOSPITAL LIBRARY.

By HENRY M. BANNISTER, M. D.,

Member of American Medico-Psychological Association, American Neurological Association, Chicago Academy of Medicine, etc., Evanston, Ill.

The utility and the need of some sort of a medical library in a hospital for the insane are, perhaps, so self-evident that the subject I have chosen for want of a better, may call out in my hands nothing particularly new. It has seemed to me, nevertheless, worth while to offer a few thoughts here that have occurred to me from time to time in regard to the subject, believing that their presentation can, at least, do no harm, and if in the ideas presented there may be some fact or feature that is suggestive to anyone else, either directly or on some principle of induction, one current of thought exciting another, it may be in the opposite direction, there is in it a possible source of good.

Modern humanitarian ideas demand of a hospital for the insane that it shall offer for the benefit of the unfortunates committed to its care, the best that medical science can afford, both in the professional skill of its officers and in the appliances at their command. Of these latter in my estimation the medical library stands among the first in importance. Without it the institution is crippled at its head, it is impossible for it to be abreast of the progress of the age. General hospitals are served by specialists in many lines, are located in the great centres of population, and the necessity of their possessing works of reference is unfelt. The hospital for the insane is, as a rule, located far away from the medical centres and often miles in the country from the nearest town; it demands the whole time of its medical staff, who have comparatively slight opportunity for availing themselves of the mental friction of consultation and competition with their fellow practitioners in

medical societies and daily intercourse. The work, too, is a peculiar one that has only partial relations with medical work outside; the institution is self-contained and isolated to a greater or less extent. While practice in a hospital for the insane has much in common with practice amongst the community generally, it has its own special features and the specialty the institution represents is to a large extent peculiar to itself. It has a very large and yearly expanding literature of its own with which the competent and really accomplished alienist should have, at least, a general acquaintance as a whole and certainly more than a merely general knowledge of that part that is in his own language. The specialty of psychiatry like every other demands that its followers should keep in touch with their co-workers in all parts of the world, and if we are to be alienists and not merely asylum wardens this is our obvious duty.

In giving my own personal ideas as to what a reasonable ideal of a hospital medical library should be I would not lay any great emphasis upon those general works of which it may, perhaps, be said no medical library should be without; the medical dictionaries, the standard works on anatomy, physiology, on practice, surgery, clinical diagnosis, therapeutics, etc., etc.; they are likely to be provided, if not in the institution library, in the private collections of physicians on the staff and they are certain to be provided in some way or other. Some special works on the anatomy and pathology of the nervous system ought certainly to be included, and it is surely important that there should be access to the latest authoritative works on these subjects. More stress should, I think, be laid on the gross than on the microscopic anatomy and pathology, for the former is certain to come under observation and often presents marked changes that should be recognized and noted, and which have in the zeal for the microscopic pathology been sometimes overlooked or slighted in the past. I have known a valuable specimen of macroscopic brain lesion and one that had important bearings on certain questions of localization thrown aside and lost because it did not happen to be in a condition fit to furnish work for a pathologist devoted to section cutting and microscopic pathology. There should at all events be on hand in the institution such works as would make possible the

fullest identification and localization of all possible macroscopic brain lesions and these should be examined for and noted in every case that comes to the autopsy table. The teratological variations of any and every kind, and especially those noted in the brain and its convolutions, are of like importance and the selection of works for the library should be made with especial reference to this point. The recognized stigmata of degeneracy come in this general category, and the best works and monographs treating of them and of anthropometry generally should also be included in the hospital library if possible.

Works on gross anatomy have this advantage that they more rarely get out of date than do other medical works. The macroscopic anatomy of the brain and nervous system generally is now fairly well known and accurate treatises on the subject up to our present knowledge will be lastingly useful.

The hospital library should also be well equipped with standard and authoritative works on the general and special pathology of the nervous system. In this, as in our own specialty of insanity, some of the most valuable works of their times have never reached a second edition and still possess, in a manner, the authority of monographs. Such works may well be sought out for the library, as may also the latest editions of many classic works in this department, that are now long out of print. What has been said about one edition works is true to a certain extent in regard to the systems of medicine and and therapeutics that are now so common and which do not as a rule have a second edition issued. They stand, therefore, according to their merits as collections of monographs and the best of them may well be included in a hospital library.

The real working hospital library, however, the portion that keeps its readers up-to-date and which when complete in series forms the best library of research, is to be found in its journal files. These should be as full in the specialty of the institution as is possible or practicable, and should include not merely those in our own language but also some in the leading foreign tongues. There certainly ought to be some one on the staff of a hospital for the insane who is sufficiently versed in one or more languages besides his own to read medical literature, if even the occasional aid of a lexicon is required. Such a sight acquaintance with a language is easily acquired by anyone who

has had a liberal education, certainly so with any one of the three leading ones, French, German and Italian, in our specialty of psychiatry. A completely equipped hospital library should have the leading serials in each of these languages, and the more nearly complete the files the better. In the German the *Allgemeine Zeitschrift für Psychiatrie*, and I would add to this the *Neurologische Centralblatt*, and more recently started *Monatschrift* of Wernicke; and if practicable also the well known *Archiv für Psychiatrie und Nervenkrankheiten*, which while, perhaps, more neurological than psychiatric, is especially valuable in the character of the monographic papers it contains. Besides these I would add if possible a complete series of *Schmidts Jahrbücher*, which gives a view of continental medicine for over sixty years, and which can often be obtained through the Leipsic dealers at an expense of only two or three hundred dollars or less. A publication like this is invaluable for literary research, and especially so on account of the length of time covered, which includes nearly all the really active period in our specialty. In the French language the library should receive the *Annales Medico-Psychologiques*, and were I to add another it would be the *Archives de Neurologie*, which gives much space to papers of interest to the alienist. There are other publications in both languages that could well be added to the list, but these, perhaps, are sufficient. In the Italian language, which is particularly rich in this department, the *Rivista Sperimentale di Freniatria* and *di Medicina Legale* ought at least to be subscribed for. The English and American serials need hardly be specified here as they are familiar to us all. That the hospital or the members of its staff ought, of course, to receive one or more of the great medical weeklies of this country, goes without saying; the needs in this line are commonly enough recognized. But for a research library a copy of the *Index Catalogue* and its continuation would be of the greatest value. The latter is now easily obtainable, but the original series may be hard to get. Since the *Journal of Insanity* has been publishing a quarterly bibliography of psychiatric literature the current numbers of the *Index Medicus* are not indispensable, but still they would be of value for the general references that have to be looked up on allied subjects.

The whole annual expense of subscription for these most necessary journals can be brought well under one hundred and fifty dollars, a figure that ought not to be formidable for a large State institution. Add to the journal subscription the purchase of the more important monographs from time to time as they appear, not very many of these in the course of the year, and we have the whole expense of a good working library with which one can not only keep abreast with the times in the specialty, but can find the references that will enable a writer on the medical staff to bring his original contribution fairly up to date on the literature of his subject.

It may be objected that a library largely made up of journal files will gradually enlarge so as to become cumbersome and demand more space than can be given to it in a hospital for the insane. In answer to this objection it may be said that the addition of a dozen or two volumes a year ought not to be objectionable and that is all that is necessitated in the sketch here offered. It would require many years for a library increasing only at such a rate to outgrow even limited quarters, and as an essential adjunct it ought not to be objected to. The utility of a library is far more obvious than is that of a pathological laboratory and its expense is less. It is better, in my opinion, to be provided with the means of knowing all that is done throughout the world than to be able to do the most elaborate section cutting without this knowledge. The custom of having conjoint pathological laboratories for a number of institutions, either independent as in New York, or at the State University, as in Michigan, is I believe a good one and better adapted to produce good results than is the attempt, often futile, of each institution to have its own. There is abundant chance in any State hospital for the medical staff to devote all their available time to clinical work and study, and without these pathological preparations are next to useless. But neither clinical nor pathological investigations can be carried on to advantage without the use of the journals that keep us up to the times in the knowledge of what our co-workers in all parts of the world are doing along the lines of our own studies and observations.

The hospital library, to sum up, should, it seems to the writer, have a fair representation of the best works in the gross anatomy of the central nervous system; enough at any rate to

make possible the accurate localization and description of any macroscopic lesion or abnormality that may be met with on the autopsy table, and some modern authorities on anthropometry and the signs of degeneracy. It should also contain as far as possible the classic works in our own specialty and the best modern treatises and monographs in the same. It should have files, or at least the current issues, of a number of the leading special journals devoted to psychiatry and neurology, both American and foreign, and if possible a complete file of some publication like Schmidts Jahrbücher which covers, so to speak, the whole active period of modern scientific medicine. With these and a few general works in the way of system or reference handbooks, covering the fields of general medicine, surgery, pathology, and therapeutics, it will afford nearly or quite all that is required to enable any psychiatric investigator to learn in a general way what has been done before in the line of his special studies and to compare and verify his discoveries. It is not essential, it is of course understood, that mere book-work is even especially desirable or praiseworthy, but it is getting to be more and more important for a medical writer to know the literature of his subject. Without such knowledge he is in an unfortunate position and would in most cases be wise in refraining from writing. Our hospitals should become foci of original research and observation if American psychiatry is to take its proper place in the medical science of the time.

As supplementary to the above, which may be called the essentials, I would suggest such works as the Index Catalogue of the Surgeon General's Library, if it can be obtained, and certainly its continuation which has now reached its second volume, and the current Index Medicus if not its complete files. If the hospital possesses its own pathological laboratory, properly and efficiently manned, almost an additional library on pathology and its related subjects is desirable. This, however, I consider not essential, as already stated, if such an arrangement as those in force in New York and Michigan and also in Scotland is possible.

The expense of such a working hospital library as here suggested need not be great, the essentials or most of them can probably be obtained by judicious purchases at a cost within the estimates of even an economical legislature and it can be

kept up at an annual expense of not much more than one or two hundred dollars. The institution itself can often do its own binding; this is certainly possible in a large State hospital, and such are here more especially considered.

Of course much can be done with only a limited portion of what has been here considered necessary, but it would seem it would have to be done under embarrassments that are not really excusable on the ground of expense. That the hospital and not the physicians should own the reference library is evident enough when the changing possibilities in the medical staff are considered.

DISCUSSION.

DR. BRUSH: I think the suggestions Dr. Bannister has made are very wise, and he has made some excellent points. I agree with him in what he says about pathological laboratories. It is certainly better, through journals and text-books, to learn what somebody else is doing well than to try to do in your own laboratory something you know little about. In Sheppard we hope some day to see our laboratory better started than it is. We have access to some fifty or sixty journals, home and foreign, and each member of the staff, when he reads an article that is of any value to him and which he thinks would be of value to anybody else, is obliged to check it and lay it on the stenographer's desk. Every morning these memoranda are filed in our index catalogue. We find it of very great value to us to be able to find these by turning to the index catalogue. It saves the bother and expense of binding the journals. We can put the journals in the attic, and through the index catalogue we can turn back to the journals we may want.

THE JUDICIOUS TRAINING OF NEUROTIC CHILDREN AN AID TO THE PREVENTION OF INSANITY.

By DANIEL R. BROWER, A. M., M. D.,

Professor of Mental Diseases, Materia Medica and Therapeutics, Rush Medical College; Professor Diseases of the Nervous System, Post-Graduate Medical School, Chicago, Ill.

The presentation of this paper to such a learned body of American alienists is not with the view of teaching them anything in regard to this important topic, but for the purpose of provoking a discussion that may result in the formulation of certain fixed principles, for the training of neurotic children, that will guide the people in this work so important in the prophylaxis of insanity. This association, by its powerful influence, has established in every medical college of good repute in this country the teaching of insanity, as a part of the ordinary curriculum, to the great advantage of the profession and laity. And this association with the same power can disseminate medical knowledge among the people by the distribution of literature and by popular addresses, with the result that the people will be enlightened as to the etiology and prophylaxis of insanity.

In my opinion we have never availed ourselves, to the extent we should, of the popular public address, as a means of educating the people on many medical topics. Medical education of the people if to be sound must come from us, and this is the surest way of breaking down the barriers of quackery in all its forms. I hope it may be the pleasure of this association to endorse and promulgate such methods of enlightenment.

We must recognize the fact that insanity is increasing in a much more rapid ratio than the population; notwithstanding the efforts made to explain away this lamentable condition, nervous diseases generally are increasing. For the past four years, at least, in the city of Chicago nervous diseases are at
cxliii

the head of the list of causes of death, occupying the place so long held by tuberculosis. If this is to be changed it must be by this and kindred associations marking out the way.

I hold with Esquirol, that of all diseases insanity is the most hereditary, and I agree with Régis in placing the percentage of heredity at ninety, recognizing the fact that nervous diseases undergo transformation in transmission, that the inherited unstable condition may come from insanity in ancestors or from any of the neuroses.

Our first care in the prevention of insanity should be given to the neurotic mother during her pregnancy—and in this effort special attention should be paid to the condition of the digestive system, of the various organs of elimination, of the blood, and to securing a reasonable amount of rest and recreation. The women often suffer from insomnia and only the mild hypnotics should be used to relieve it; as a rule, an abundance of nutritious and easily digested food, with proper elimination, will soon establish conditions favorable to sleep. The neurotics have an almost irresistible tendency to use stimulants and narcotics in unreasonable quantities and this must be carefully guarded against. By a successful management of the period of pregnancy we may sometimes nip insanity in the bud.

The moment the child is born our prophylaxis should begin. As a rule the mother will make a very poor guardian for the child. A nurse, if possible, should be found, with a stable nervous system, who can so train the child that its instability may be diminished, who will give a reasonable and constant care to the child's food and clothing, and who will not be tempted to soothe the child's irritability by narcotic drugs and stimulants. The child, if possible, should be reared in the country, with its freedom from noises, better air, better food, and more opportunities for muscular development.

The education of these children is a matter of most serious concern. Some of them are remarkable for their precocity, others, on the contrary, have a very retarded development of their mentality; so that neither one class nor the other is suited to the rigidity and inflexible conditions of our ordinary public schools. The one competing for the school prizes, and winning them usually, indulges in too much overstrain and injurious excitement, overtaxing the brain and nervous system;

the other class, unable to keep peace with ordinary scholars, suffers daily disappointments and discouragements that lay the foundation for morbid mental manifestations. The neurotic children of either class should not be put to school early, nine years in my judgment is early enough, and there should be, under no circumstances, any forcing of these children in routine class work. In this education physical culture should have a prominent place, so that the children, if possible, should, one and all, be made athletes.

It is interesting to note that in Russia the children of the Foundling and Orphan Homes are sent, when one month old, with nurses to the country, placed under the care of the government physicians, and remain there until eight years old when they are taken back to the cities to receive their training.

The manual training school for the older children will offer, as a rule, a fine opportunity for the development of the muscular system *pari passu* with the intellectual, and throughout the entire training of these children, from the beginning to the end, properly proportioned gymnastic exercises should be a very prominent feature. Military schools, by the discipline, obedience, and vigorous exercises which they offer, are excellent places for the training of such children, who need to be taught obedience, self-control, self-denial, everything that is the opposite of selfishness, and these should be impressed upon them from the very beginning of their careers. Boys should be taken from parents and put away at school when their parents fail to enforce a proper degree of discipline; and girls should be sent away from home when their mothers have not the time or force of character to properly manage them.

These children should not be permitted to use either alcoholics or tobacco. The injurious effects of these articles on brain circulation, brain cells, and hence brain growth, are too well known to need comment. Coffee and tea, while less injurious to childhood, should also be prohibited until after puberty.

The functional abuse of the sexual apparatus should be considered, and most earnestly guarded against. Excessive venery and masturbation provoke insanity through their direct influence on general nutrition and the nervous system, and these neurotic children have a special tendency to masturbation.

Then, later, comes the important question of occupation, of means of livelihood. The learned professions, on account of the intense brain work, great responsibility, irregular hours of work and sleep, and in medicine irregularity of food, are to be avoided, and, for the same reason, though in less degree, they should not become teachers or governesses. They should have something more automatic, less wearisome, and demanding less irregularity of action, and, if possible, an out-door occupation.

To summarize:

The neurotic mother must be judiciously cared for during gestation.

The infancy of children must be managed with kindness and firmness; their evil instincts and passions must be combatted, their muscular system must receive the best possible training, and this in the quiet and calm of the country; in education all excessive mental application must be avoided, and their training conducted, if possible, in special schools, rather than in the inflexible public school. They should be protected against the danger of sexual impulses, tendencies to excess, irregularities, and debauchery. Their life occupation should be selected with great care, avoiding, as a rule, the learned professions.

A STUDY OF THE NATURAL HISTORY OF THE CLINICAL MANIFESTATIONS AND PATHOLOG- ICAL CHANGES IN DISEASE OF THE LUNGS AMONG THE INSANE.

By H. A. TOMLINSON, M. D.,
Superintendent St. Peter State Hospital, St. Peter, Minn.

In the International Medical Journal for March, 1895, I published a paper giving the results obtained from the study of the degenerative and destructive diseases of the lungs, among the insane in this hospital. Since that time the study has been continued, with even more care and elaboration, and especial attention has been given to the clinical manifestations and natural history of the pathological changes which mark the course of these degenerative and destructive processes. As a result of this more careful study, we have found that these changes are not confined to those cases in which the apparent cause of death has been phthisis; but that sometimes quite marked destructive change has been going on in the parenchyma of the lung, in cases showing a very different clinical picture, and where the immediate cause of death has been some other organic or general disease.

Since January, 1895, there have been 167 deaths, of which 50 have been recorded as due to phthisis in some of its forms. Out of this number a necropsy has been made in 72 cases, and of this number studied post mortem, 24 were cases of phthisis, while the rest represented different forms of organic and general disease. However in none of the cases studied was there complete freedom from lung involvement, while in some of the cases, where death was due to nephritis, the progress of degeneration was as great as in the well defined cases of pulmonary tuberculosis. During the year 1895 and a part of 1896 we had

very little tuberculosis in the hospital; but in the fall of 1896 there was a marked increase in the number of cases; and the illness of our herdsman from acute tubercular infection as well as the death of a patient from tuberculosis, who was one of those working in the cow barn, led to the examination of our herd, with the result of finding one-half of the herd infected with tuberculosis.

The increase in the number of deaths from this cause went on until the warm weather enabled us to get our patients out of doors, in spite of the fact that all the milk from the infected and suspicious cows was boiled before using, and the unsound cattle isolated. Another cause for the increase of tubercular infection during the past two years has been the great overcrowding of the institution. This, in connection with the fact that the buildings are old, illy ventilated, and poorly constructed from a sanitary standpoint, has made infection much more common than it would be in a new or better constructed set of buildings. During the time covered by this study we have not had a single case suffering from tuberculosis at the time of admission to the hospital; all of the cases being either primary degenerates a year or more in residence, or else terminal dementes who had been in the hospital for a number of years. The nationality of those dying of phthisis was distributed as follows: Scandinavian 17, Irish 13, German 10, American 7, French 2, Polish 1. So far as could be found out, none of the cases dying of phthisis during this period had an heredity of tubercular disease; although there may have been a collateral or pre parental history, as our hospital population is largely made up of people who have only been in America during one generation.

Since January 1st, 1895, 71 post mortem examinations have been made and in the following table will be found the cause of death and the condition of the lungs in these cases. I wish also to note here, that in all of these cases a proportionate degenerative change had taken place in the other vegetative organs, and the brain, being most marked in the kidneys, the spleen and the liver following in the order named.

MORBID ANATOMY OF LUNG TISSUE.

Cause of death in 72 cases coming to post mortem examination, from Jan. 1, '96, to June 1, '97.	Number of cases.										
	One lung.	Both lungs.	Increased density alone.	Shrunken lung.	Shrunken lung with consolidation.	Shrunken lung with nodules.	Nodules at apex.	Nodules throughout lung.	Increased density with nodules.	Increased density with nodules and cavities.	Cavity at apex.
Cerebral Tumor	1	1	1	1	1						
Cerebral Embolus	2	2	1	1	1						
Cerebral Syphilis	1	1	1								
Cerebral Haemorrhage	1	1	1	1	1						
Meningitis	1	1	1	1							
Asphyxia	2	2	2	2							
Hepatic Abscess	1	1	1								
Empyema	1	1	1						1		
Typhoid Fever	1	1	1	1							
Mammary Carcinoma	1	1	1	1							
Sarcomatosis	1	1	1						1		
Pulmonary Oedema	1	1	1	1							
Broncho-Pneumonia	2	2	2				1	1	1	1	
Lobar Pneumonia	6	6	2				1	2	1	2	1
Fibroid Phthisis	2	2				1			1		
Pulmonary Tuberculosis	22	21	1	1	1		7	1	2	18	12
Chronic Nephritis	22	21	10	2	5	2	9	2	2	2	12
General Paralysis	4	4	1	1					2		

From the fact that none of these cases was recent, it will be seen that the degenerative process must have been engrafted upon some pre-existing condition rendering the pulmonary tissue susceptible to infection by the tubercle bacillus and the pus-forming bacteria. It will also be noted that destruction of lung tissue was almost as frequent in those dying from renal inadequacy as in the cases where the progressive asphyxia due to respiratory failure was the cause, and that in all of the cases examined post mortem some degree of degenerative change had taken place in the lung tissue; although at no time were the physical signs conspicuous enough to attract attention from the other diseased conditions present. So far as we could determine from the clinical progress of the cases, the destructive change in the lungs became apparent, only after the vitality of the patient had been materially reduced by pre-existing general disease or organic change in some other form. Again, even in those cases where there was no destruction of lung tissue, there was marked increase in the density of the lung, which under the microscope proved to be the result of connect-

ive tissue hyperplasia and this increased density was always in proportion to a similar degenerative change going on in the other vegetative organs.

In all of the cases there were pleural adhesions, varying from slight bands at the apex, to complete obliteration of the pleural cavities. The greatest amount of adhesion existed in the chronic tubercular cases and the least in those dying from general paralysis. In the case of mammary carcinoma one lung was entirely destroyed; while in the case of sarcomatosis, both lungs were densely fibroid with sarcomatous nodules throughout the lungs. The increased density in the lung tissue was most marked in those cases which exhibited the gross stigmata of degeneracy, and whose mental condition was the result of defective development, and in these cases the nature of the degenerative change in the lung was further exemplified by the presence of similar changes in the liver, spleen, and kidneys. Furthermore the character of the degeneration was in constant relation with the degree of defect in the nervous organization of the individual, and the amount of degenerative change in the brain.

A singular episode in the clinical history of tubercular infection among the insane, has been the occurrence of a certain number of cases among primary degenerates of an acute illness, with high temperature and great prostration, presenting the physical manifestations of a broncho-pneumonia, accompanied by profuse expectoration, marked digestive disturbance, loss of appetite, and emaciation; the sputa containing numberless tubercle bacilli. This clinical picture resembles what used to be called "acute catarrhal phthisis." But, among the insane, these cases, so far as I have observed them, invariably recover, the bacilli disappear from the sputa, expectoration ceases, and the patient apparently completely recovers. So far none of these cases have died of tuberculosis and those cases dying of tuberculosis have had no such outbreak as a part of their clinical history.

Another interesting clinical feature, has been the absence of extreme emaciation in a large majority of the cases included in this paper, the loss of weight being comparatively slight, while the course of the disease has been, as a rule, greatly prolonged. On the contrary, those cases in which the onset of the

phthisis has been comparatively sudden and its progress rapid, emaciation has been extreme. There is also a marked difference in the temperature range. In the first class of cases the temperature rarely gets beyond 101° F., while in the latter it frequently goes as high as 105° and often does not go below 102° until a short time before death, when the usual subnormal excursions occur. The subjective symptoms are also more marked in this latter class of cases. Cough is present, with comparatively profuse expectoration, and the course of the disease is more nearly like what it is among the sane. In the cases in which the course of the disease is prolonged, tubercle bacilli are not abundant and sometimes entirely absent; but staphylococci are always present and often streptococci and pneumococci. While in the rapidly fatal cases tubercle bacilli are always present in abundance but the pus-forming bacteria are not so common and often are entirely absent. Pulmonary hæmorrhage did not take place in any of the cases included in this report and in my experience practically never occurs among the insane.

In the class of cases in which the subjective symptoms are absent and emaciation is slight, death usually occurs as the result of renal inadequacy and pulmonary oedema, and the urine as well as the condition of the heart and arteries indicate a chronic interstitial nephritis, while in the more rapidly fatal cases there is a parenchymatous nephritis, sometimes acute, tubercle bacilli often appearing in the urine abundantly. The two following cases illustrate the types described:

M. C. admitted July 30, 1895. Born in Ireland, 36 years old, single, a carpenter by trade. A brother of this patient was admitted about two weeks previously, and both were excited at time of admission. Both parents died in middle life from "lung trouble," a brother aged 59 years from "la grippe," and a sister at 35 years, after confinement. The patient was healthy as a child, but after he reached adult life suffered from chronic constipation and "kidney disease." About three years previous to coming to the hospital he fell and hurt his head. Since that time he occasionally suffered from pain in the back of his head and neck. This pain was more severe after his mental disturbance began. When admitted he had difficulty in passing his urine and was constipated. He also had a varico-

cele, numerous dilated veins over the surface of the lower extremities and suffered from internal hæmorrhoids. He improved rapidly, both physically and mentally, and with his brother left the hospital August 31st, 1895.

June 29th, 1896, the brothers were readmitted, M. being very much depressed, while the other was exalted. This time he was in very bad physical condition, poorly nourished, and the respiratory sounds were harsh over the apices of both lungs. The urine contained albumen, but no casts. He improved physically, but steadily deteriorated mentally and was persistently depressed, indifferent and without disposition to occupy himself.

In January, 1897, he began to lose in weight; his appetite became capricious, but his physical condition remained fair, and during the summer he improved and became fairly active. October 14th he was put in bed. There was some elevation of temperature. Respiration and pulse were accelerated and he complained of pain in the chest. There were no definite physical signs present although there was harsh respiratory sound over both lungs generally. He improved rapidly and was out of bed in a short time. Temperature normal, appetite and physical condition good.

November 29th he again went to bed complaining of chills and diarrhoea. He had some cough at night. Temperature 101°. The physical examination at this time showed defective resonance over both apices. Sibilant and sonorous rales and breathing high pitched at the bases of both lungs. The sputum contained streptococci and numerous tubercle bacilli. The condition of the lungs became rapidly worse. Diarrhoea developed, tubercle bacilli were found in the fæces and urine. A cavity was found in the left upper lobe. The diarrhoea continued. The urine contained both albumin and casts. He failed steadily in weight and strength, the temperature went up to 104° and 105°, and never got below 102°. Tubercle bacilli were abundant, and the pus-forming bacteria, especially staphylococci, were present for some time before his death. He died January 21st, 1898. A post-mortem could not be obtained.

The brother is living, robust and vigorous, but there is some change in his arteries, and eventually he will die of nephritis.

T. M. Admitted April 8th, 1890; age, 21 years; nativ-

ity, Poland; occupation, lumberman. He was a stranger and no information could be obtained concerning his family or personal history, except that he was and had been an inebriate and markedly peculiar and erratic in his conduct always. He was found in a root cellar, where he had secluded himself for some time, living on the vegetables stored there. He had auditory and visual hallucinations, was a victim of religiosity, with expansive ideas concerning his relations with the Deity, and a marked disposition toward seclusion. When in the presence of others he was suspicious, sullen, and irritable, and occasionally disposed to be violent.

Examination on admission showed the patient to be in poor physical condition, his vitality very much lowered, and the circulation quite feeble. He improved physically after coming to the hospital, but continued to deteriorate mentally, until within a short time he was stupid, entirely indifferent to his surroundings, requiring constant personal care. Afterward he became more active but continued to grow more enfeebled mentally, becoming entirely demented within the first year of his hospital residence.

There was no material change in his condition until the fall of 1896, when he became more stupid, lost his appetite and grew weak physically. He was put in bed December 2nd, failed rapidly and died December 12th, 1896.

Neurology: There was some emaciation and the muscles were flabby from lack of use. The forearms and legs were cedematous. The changes in the brain and its membranes were characteristic of dementia. The cerebro-spinal fluid was sterile.

The pericardial cavity contained 40 c. c. of straw colored fluid and there were numerous fibrous patches on the visceral layer of the pericardium. The fluid contained tubercle bacilli.

The heart weighed 234 gr'ms. There was a large deposit of fat about the apex, but the muscle was firm. The valves were competent.

The right pleural cavity contained 85 c. c. of fluid. The lung was generally adherent, with the adhesion most marked at the base. It weighed 1153 gr'ms. The whole lung was fibrous, while nodules and small cavities were scattered throughout its substance, excepting a small fringe of comparatively healthy tissue at the base anteriorly.

The left pleural cavity contained 90 c. c. of fluid. The lung weighed 1147 gr'ms. It was generally adherent, densely fibrous, and filled with nodules and small cavities.

The organs in the abdominal cavity all showed marked degenerative change, with general fibrosis most marked in the liver and kidneys.

Tubercle bacilli were stained in the lung tissue and fluid from the pleural cavities. The tubercular infection evidently had been comparatively recent in this case, and the destructive change was slight on account of the extreme fibrosis in the lung tissue.

Post mortem the difference in the conditions present is just as marked as in the clinical difference. In the cases where the course of the disease has been comparatively rapid, the changes in the lung are characteristic of disintegration, with destructive change in the parenchyma of the lung and the formation of large abscess cavities. In the slowly developing cases the changes are degenerative; cavities are small with dense fibrous walls and these cavities are most common in the lower lobes and toward the exterior of the lung. The lung is heavy, its tissue dense, and the bases often only a mass of tough fibrous tissue; the only tissue at all resembling the normal being in the middle and anterior portion of the lung. The resemblance between the changes in these cases and the condition of the lung tissue in bovine tuberculosis is remarkable. In the examination of the lungs of fifty cows, killed on account of their response to the tuberculin test, the changes found in the lung tissues were practically identical with the changes found by me in the lungs of the insane, the only difference being, that these animals being killed and not dying as a result of the disease, seldom have abscess cavities and the degenerative changes are not so complete. This resemblance in the changes found led me to study the history of the patients dying with tuberculosis, for evidence of defective structure. I found that all of the cases with the clinical picture of slowly developing lung disease, without subjective symptoms, emaciation, or much elevation of temperature, occurred among primary degenerates whose insanity began during adolescence, rapidly lapsed into dementia, and whose existence for varying periods of time had been purely vegetative. While among the cases in which the change

was destructive, the course of the disease rapid and accompanied by well defined subjective symptoms, the opposite conditions obtained and they were generally cases of unstable brain development, giving way under stress of disease or the exigencies of life. They more nearly correspond with the sane in the conditions under which the phthisis developed, its progress, and the nature of the changes found post mortem.

In the animals observed by me tuberculosis rarely presented any outward manifestation of the diseased condition. In one case, where the lungs weighed 38 pounds and were densely fibroid, with an enormous abscess cavity, the animal was sleek and fat, apparently robust, having a hearty appetite and giving a large quantity of milk. In others the same conditions were present, only in a lesser degree. Even in the mildest cases tubercular pleurisy was present, with enlarged bronchial glands and fibrosis of the lung, most marked on the exterior, giving to the surface of the lung the appearance of scale armor. Now this same type of degenerative lung disease occurs among the insane, presenting almost identical clinical and pathological conditions.

There is commonly during the progress of the phthisis, absence of pain and dyspnoea, little or no cough or expectoration, no hæmorrhage, and very few symptoms referable to the lungs, our attention being first called to the case by weakness, elevation of temperature and sweating. The course of the disease in this class of cases is very greatly prolonged as a rule, and even after the patient is put in bed, he may continue a merely vegetative existence for periods varying from three months to a year. After death the changes found resemble greatly those resulting in bovine tuberculosis, being only more advanced, and show that the degenerative changes have been greatly prolonged and probably existed a long time before our attention was called to them by the symptoms produced by infection with the pyogenic bacteria. Again the apparent absence of the distressful symptoms of phthisis in the demented degenerate, makes more complete the analogy, by showing how mental reduction tends to bring the nervous organization by retrograde change to the level of the type existing in the lower animals, while a corresponding somatic reduction goes on as the result of the establishment of premature senility.

In some instances where there was markedly defective or ganization, the morbid anatomy of the lung was the same as that found as the result of senescence.

The following cases illustrate these changes and the resemblance referred to:

P. L. Male; admitted April 11th, 1892; nativity, Canada; age, 84 years; senile degenerate. When admitted this patient was in good condition with the exception of the presence of a double inguinal hernia. Mentally he was confused, with progressive reduction of capacity. There was no variation in his mental condition during the time of his residence and very little in his physical status, he having occasional attacks of infective diarrhoea, from which he always promptly recovered. The arteries were hard, heart's action irregular and intermittent, and he often complained of vertigo. The last two months he spent in bed growing progressively weaker. There was a large area of dullness over the lower portion of the right lung and there was some cough. He died April 18, 1895, presenting the usual manifestations of progressive uranæmia.

The changes in the brain were those usual in senility but there was an unusual amount of arterio sclerosis. The pericardial cavity contained 18 c. c. of cloudy fluid. The heart muscle was soft and flabby, the endocardium thickened. The leaflets of the tricuspid valve were much shrunk, as were the semilunar valves, and both contained numerous calcareous deposits. There were calcareous patches scattered over the other valves also. The heart weighed 13 oz.

The right pleural cavity contained 1800 c. c. of thin purulent fluid and the pleura was much thickened posteriorly and laterally. The left pleura was adherent at the apex, anteriorly, and to the diaphragm. The right lung weighed 21 oz. and its pleural covering was densely thickened at the base anteriorly and posteriorly and there was some hypostatic congestion. The left lung weighed 26 oz. The apex was deformed by scars externally and there were nodules and small cavities throughout its structure. Both lungs were deformed externally by numerous old cicatrices and the lung substance was dense and inelastic. The organs in the abdominal cavity all exhibited marked degenerative change and the pyramidal substance in the kidneys was largely replaced by fat.

M. A. B. S. Female; admitted April 10th, 1872; nativity, Switzerland; age at time of death, 70 years; senile degenerate. This patient is said to have always been "weak minded" and her condition was that of chronic excitement at the time of her admission. During her residence in the hospital she was in good health as a rule and mentally she was demented and quiet.

On February 4th, 1896, she complained of severe pain in the left side of the chest. The temperature was elevated from one to two degrees and respiration was accelerated. On the next day a well marked pneumonia involving the lower lobe of the left lung and associated pleurisy were made out. The patient's strength failed rapidly and she died February 8th.

The changes in the brain were those characteristic of dementia. The pericardial cavity contained 15 c. c. of sanguinopurulent fluid. The heart weighed 14 oz. The muscle was thickly covered with fat. The valves were competent. The right ventricle contained a partially organized clot. The left pleural cavity contained 100 c. c. of fluid and the lung weighed 35 oz.; was universally adherent, the adhesions being old and firmly organized at the apex, but recent over the middle portion and the lower lobe. There was a fibrous exudate over the whole of the lower lobe, more abundant anteriorly, and this exudate could be peeled off in sheets. The lung was dense and solid at the apex where there were some tubercles. The lower lobe was solid throughout. The right pleural cavity contained no fluid. The lung weighed 17 oz. and was almost universally adherent. The anterior margins were crepitant but the posterior portions of both lobes were in a condition of hypostatic congestion. The density of both lungs was markedly increased.

The abdominal organs were shrunken and fibrous. The kidneys were very much degenerated and the pyramidal substance replaced by fat to a large extent. The bladder was empty. Staphylococci, streptococci, bacillus pyocyaneus and Frænkel's pneumococcus were found in the pleural and pericardial fluid, the pneumococcus largely predominating. No tubercle bacilli were found.

T. M. Male; admitted April 8th, 1890; nativity, Poland; age at time of death, 26 years; a primray degenerate. When

admitted this patient was in poor physical condition on account of exposure and want of food. He was self-depreciative and the victim of religiosity when admitted, but rapidly became demented and stupid. During the last three years he degenerated physically as well as mentally, was put to bed December 2nd, and died December 12th, 1896. The changes in the brain were those characteristic of dementia. The pericardial cavity contained 40 c. c. of fluid and there were numerous white patches on the visceral surface. The heart weighed $7\frac{1}{4}$ oz. There was a large deposit of fat at the apex. The muscle was firm and the valves competent.

The right pleural cavity contained 85 c. c. of fluid. The lung weighed $37\frac{1}{2}$ oz. At the apex there were numerous small cavities and throughout the lung there were nodules and cavities. The left pleural cavity contained 90 c. c. of fluid. The lung weighed 37 oz. It was adherent antero-posteriorly. There was a cavity the size of a walnut in the apex and a smaller cavity in the axillary line. This lung was almost entirely solidified and filled with nodules and small cavities. The tissue of the lung was densely fibrous and inelastic. There were tubercle bacilli in the pleural but not in the pericardial fluid. They were also present in the lungs.

The organs in the abdominal cavity showed marked degenerative change with fibrous increase. The kidneys were increased in weight, their capsules adherent and the cortex much thickened. The mesenteric glands were enlarged and numerous ulcers existed in the intestine.

A. R. Female; admitted November 24th, 1886; nativity, Sweden; age at the time of death, 30 years; primary degenerate. When admitted this patient had been insane for two years and was a victim of sexual excitement. She passed gradually into dementia, becoming stupid and filthy. Her physical condition was fair. In December, 1893, physical signs of tuberculosis became apparent. There was a prolonged remission and one short exacerbation of the disease between this time and March 5, 1895, when the patient went to bed very much prostrated, with profuse expectoration. Tubercle bacilli were found in abundance. She grew steadily weaker with well marked physical signs and died on April 11th, 1895. The changes found in the brain were those of dementia. The peri-

cardial cavity contained 24 c. c. of slightly opaque fluid. The heart weighed 8 oz. The aortic valves were incompetent owing to retraction of the leaflets. The leaflets of the other valves were slightly thickened. The mediastinal and bronchial glands were enlarged. In the right pleural cavity there were old and firm adhesions over the upper half of the lung. The lung weighed 28 oz. and there were nodules and cavities throughout. The lung was a dense fibrous mass except at the margins anteriorly. The left pleural cavity was almost obliterated. The lung weighed 19 oz. and there was cloudy fluid in the numerous cystic cavities formed by the adhesions. The apex of the lung contained a cavity as large as a goose egg and there were nodules and numerous small cavities throughout the lung. The intervening tissue was a dense fibrous mass. The organs in the abdominal cavity were undergoing progressive degeneration. The kidneys were small, lobulated, but not markedly degenerated.

It has often been a matter of marvel to me, in examining the lungs of some of our patients, how they manage to live so long when there was apparently nothing but the anterior margins of the lobes of the lungs left for them to breathe with.

All variations between the types described are found as can be seen by referring to the table and it will be noted that almost as many changes are found in the lungs of those patients who die of nephritis as among those who die of tuberculosis.

Another matter of clinical interest is the fact that the phthisis often exists for a long time before the tubercle bacilli can be found in the sputum and some of the cases in which there are well developed physical signs of phthisis dying of intercurrent disease, show well marked fibroid change in the lung but no cavities or tubercle bacilli. In all of the cases where abscess cavities were found, some form of pus-producing bacteria were always present, the most common being the staphylococci pyogenes, aureus or albus, and Fränkel's pneumococcus.

To recapitulate: Phthisis among the insane is, in old institutions like the hospital at St. Peter, a proportionately more common cause of death than in general practice outside of the large cities, the death rate for the last year of the period included in this paper, from this cause, being 32, which is 46% of the number of deaths for the year. The disease is most com-

mon among primary defectives of the connective tissue type, to which most epileptics and so called cases of adolescent insanity belong. After these it attacks most frequently senile cases.

Now taking into consideration the fact that all patients are practically subjected to the same conditions, all equally exposed to the same sources of infection, why is it that only a certain number of them die of phthisis? A study of the family and life history of those patients who have died of phthisis in this hospital, shows that in none of the cases was there any evidence of lung disease at the time of admission to the hospital; or in the family, except that which was concurrent in the same generation. This same result was obtained by me in a statistical study made in another connection.*

Meigs, in his recently published work on "The Origin of Disease," says in the chapter on the lungs: "Extensive emphysema and fibrosis or vascular disease may often be found in the bodies of persons who had suffered no attack of sickness while these degenerative conditions had been progressing, but had enjoyed sufficiently good health to be able unimpeded to pursue their ordinary avocations."

In my own experience this is especially true in the bodies of those who have passed middle life, but among the insane I have found these degenerative changes in all defectives, including epileptics, without regard to the period of life, and it is in this class of cases, living into adult and middle life, that we find such marked destructive and degenerative change in the lungs, where the cause of death has been other than phthisis. Indeed there is no one thing so characteristic of the somatic changes accompanying degeneration, as the excessive formation of connective tissue. I look upon this tendency toward the excessive formation of connective tissue as the manifestation of inherent defect in the structure of the organism, whereby its potentiality is limited and the conditions of senility occur prematurely as a result, the variation in different individuals being due to the degree of defect and nature of the environment. I have found two general types of defective or unstable structure, the one represented by excessive connective or structural tissue formation and correspondingly imperfect functional develop-

* "Insanity and Phthisis: Their Transmutation, Concurrence, and Co-existence,"—*Journal of Nervous and Mental Disease*, October, 1895.

ment, the other by excessive functional development, with marked instability and the tendency to react extremely to slight stimuli. This type is represented in its most exaggerated form, by the children who have convulsions from apparently trivial causes, are constantly liable to extreme reaction from slight sources of irritation of the respiratory or digestive tract, show marked signs of instability during the period of second dentition, and at puberty, or during adolescence die of acute phthisis, have hysterical outbreaks, or become suddenly insane and as suddenly recover. We see this type only very rarely among the patients admitted to this hospital and they usually recover, so that opportunity for post mortem study of the nature of the changes in the brain, heart and lungs, and abdominal viscera does not come often. In the cases examined we have found the changes to be very different and in some cases exactly the opposite of those found in the connective tissue type. The brain is shrunken and microscopically shows marked disintegration of the cortical cells, without material increase of neuroglial tissue; the organs of the body small, with destructive or atrophic change according to the cause of death, the blood vessels showing destruction of the intima and muscular coat, with only apparent increase of fibrous tissue. The connective tissue type has been sufficiently described in the body of the paper and the case records indicate the nature of the changes found. Of course these types tend to overlap and run into each other and are seldom absolutely clearly defined except in childhood and during adolescence. Three such cases were reported by me in the paper before referred to, two being children dying of tubercular meningitis, the other a young girl dying of miliary tuberculosis. The bulk of our patients belong to the connective tissue type; the connective tissue cell being of a lower order of development than the epithelial or functional cell, would necessarily dominate the structure of a defective organism.

The conclusion I have come to from a careful study of the morbid anatomy of the lungs and abdominal viscera of the insane, is that fibrosis is always present in some degree, greatest in the primarily defective, least in the unstable class. In the largest number fibrosis is greatest in the kidney, next in the lungs, the heart being least involved and for obvious reasons.

So far as our records show, all cases that do not die of cerebral hæmorrhage or the acute illnesses of hospital life, have for the cause of death pulmonary phthisis or nephritis. In all of the cases of nephritis there is more or less degenerative and destructive change in the lungs and where phthisis is the cause of death the kidneys are also involved. When the habits and mode of life of the average chronic insane patient are considered, the tendency to eat voraciously and take very little exercise, the enforced idleness during the winter, with overcrowding and poor ventilation, it is not surprising that the lungs and kidneys should show the greatest amount of degenerative change; and the converse of this is shown by the good health and freedom from lung disease or degenerative tissue change among those patients who lead an active outdoor life and are steadily occupied with manual labor. Modern physiology teaches us that any irritation of an organ or part, will induce not only a determination of blood, with increase of nutrition and function, but also an actual hyperplasia of the connective tissue framework of the organ. Now the persistence of the irritation or its increase will easily turn the normal into an abnormal process and we have a hyperplasia that is pathological, an increase of connective tissue sufficient to interfere with function and the after contraction of which will be the beginning of the process of degeneration. If we are dealing with a defective organism it is easy to see how much smaller amount of irritation will be required to set up the degenerative change and how much more rapid and extreme will be the fibrosis resulting from the persistence of the hyperplasia. From this the conclusion follows naturally as to the susceptibility of the insane to disease of the lungs; and the constant presence of the means of infection, coupled with the overcrowding of our large state institutions, explains the facility with which our patients become the victims of phthisis, and why degenerative changes in the lung are found practically in all cases.

DISCUSSION.

DR. HENRY M. HURD: This whole question of the occurrence and development of tuberculosis among the insane in institutions is one of the most important matters which can be brought before us. Several years ago Dr. J. W. Babcock of

Columbia, South Carolina, made some observations with reference to the development of tubercular disease at the institution with which he was connected which he reported in an admirable paper at the Philadelphia meeting. You will remember he found that patients who were sent to an old building which had been occupied fifty or sixty years, as a rule developed tubercular disease. The conviction became so strong in his mind that the development of tuberculosis was due to the surroundings of the patient, that he secured an appropriation for a new building. I believe in the State prison also a similar state of things was found to exist. In a recent conversation with Dr. Babcock I urged him to take up the question again to ascertain how largely infected buildings gave origin to tubercular disease among the insane. He has promised to undertake this investigation and will appeal to the members of this Association for cooperation. I think this paper will be a very timely addition to Dr. Babcock's proposed collective investigation. My object in rising in fact was to refer especially to the work which Dr. Babcock has undertaken.

Most of Dr. Tomlinson's cases were unquestionably cases of tubercular disease of the lungs. I think it is, however, hardly necessary to lay much stress on the different micrococci in the abscess cavity. We all know that in phthisis, especially where you have tubercular cavities, you get various forms of micrococci. All abscess cavities in connection with tubercular disease, harbor them and they develop there. I am inclined to think, too, that in some cases of extreme dementia we have a slow growing inspiration pneumonia. The nervous system of these patients is not very sensitive. They frequently allow foreign substances to pass into the bronchi and unquestionably a pneumonia is finally developed. We must not lose sight of the fact, however, that we do not get tubercular processes unless there is a proper soil for the tubercular bacilli to grow in. If patients have proper food, air, and exercise, they are not apt to develop the disease. I remember when I became an officer of an institution for the insane, nearly thirty years ago, it was possible to point out institutions throughout the country where tuberculosis prevailed, and they were institutions where the patients did not have proper food, systematic exercise and an open air life. It was evident, from the statistics gathered at

that time, that tuberculosis was the termination of neglected chronic mental disease.

DR. LYMAN: Soon after taking charge of a hospital three years ago in Wisconsin I had a test made of the herd, as the Doctor did in his hospital, and out of some 70 cattle 38 reacted to the test and were killed. A post mortem examination was not made in every case but we examined post mortem some thirteen cases, sufficient to satisfy us, and we found abscess of the liver almost as common as affection of the lung. The men in the barn did not develop tuberculosis. In the hospital we have not lost a case of tuberculosis in a year. Out of half a dozen cases in the hospital I think there are two with hemorrhages. I should suggest that the cause of so much tuberculosis developing in old hospitals is probably infection in the building, not so much from the other sanitation of the building as from chronic tubercular cases being there from year to year that have not been properly disinfected and cared for.

DR. CHARLES G. HILL: I think we do not stop to consider how one single case may infect a whole institution. I had occasion a few years ago, in connection with a general hospital, to be struck with the number of cases of phthisis that originated in the hospital in cases of traumatism, etc., which required a long stay in the hospital. In the first place, we found the general hall absolutely infected, the crevices in the floor, the walls, the bedding and every article of furniture was infected with the tubercle bacillus. Down the stairway and even on the very doorsteps the sweepings of dust gave great quantities of tubercle bacilli. The lecture rooms in which the students were seated and the room where the patients were kept when the hospital was overcrowded, we found infected. A system of disinfection, the best we could use at that time, was instituted and the infection was relieved. It is a difficult matter to disinfect a building which has become infected. Of course, sunlight, etc., is available in the summer time. But since the introduction of formaldehyde I think we have a remedy to combat the infection in old institutions. Two years ago I noticed the death rate in our own institution was unusually large from phthisis. I set going a practice of as absolute isolation and disinfection as could be accomplished in the institution. The absence of cough and emaciation makes it difficult to detect

cases at first. But we set about with unusual vigilance to discover the cases early and they were isolated as far as possible. They were instructed to use a cuspidor, or rags, etc., that could be burned. Their rooms were washed out with formaldehyde and at intervals of a few days they were fumigated with formaldehyde, of course the patient being removed at the time. As soon as death took place the room was thoroughly disinfected with formaldehyde and all other available means. Since then there has been a very marked falling off of tuberculosis in our institution. I believe a rigid onslaught against the tubercle bacillus by means not very difficult to bring into application to destroy the bacillus is the only way of limiting the mortality from phthisis in institutions for the insane.

DR. TOMLINSON: I purposely left out of my paper all reference to that part of the subject referred to by the gentlemen who have taken part in the discussion—partly because, as stated in the title, my paper had to do with the clinical history and pathology of lung disease among the insane; but mainly because I thought the prevalence of tuberculosis in our State institutions, as well as the source and means of distribution of the infection, was so well understood as to not need discussion, except as to methods of prevention. Infection in our large hospitals for the insane differs from infection elsewhere only as the personal habits of the insane differ from those of the sane. Overcrowding is perhaps the most conspicuous cause of the rapid spread of phthisis in our hospitals, while the personal habits of demented and filthy patients will account very readily for the distribution of the means of contagion. Between 1893 and 1895 there was a considerable exodus of patients from our hospital and comparatively at least we were not overcrowded. During those two years but very few cases of phthisis developed in the hospital, but as soon as the overcrowding again began, phthisis again appeared prominently as a cause of death. We isolate our tuberculous patients as soon as their condition is recognized, but this does not prevent the infection of others, because in old and poorly ventilated buildings like ours the source of contagion is with us everywhere. What I did try to bring out in my paper was the fact that the course of disease of the lungs among the insane is quite different from what it is among the sane, and the possible reasons for

this difference. In the first place, as must be apparent to anyone making a careful post mortem study of his cases, there is a co-extensive involvement of all the vegetative organs, with fibrosis in the heart, spleen, and kidneys, showing that the process is not confined to the lungs but is a general one involving the whole organism. This I described as the process of degeneration, which we know as the antithesis of development. It does not seem to me that the process needs any other definition. We know that when waste gets ahead of repair and the supply of nutriment to the part is limited, that tissue development will not be complete and retrograde change will begin. If the organism is one in which the tendency to the excessive formation of connective tissue is present, we will have first hyperplasia, then fibrosis, and finally destruction of the function of the part by pressure. If on the contrary there is simply an atrophy of the functional tissue of an organ, with apparent increase of fibrous tissue or disintegration, the epithelial structure being replaced by fibrous tissue, we have another type, but they are both degenerates, in both the potentiality of the organism for reconstitution is limited, the result in both being a progressive reduction in type. Another reason why I dwelt upon the clinical aspects of phthisis among the insane in association with its pathology, is because they seem to me to throw a great deal of light upon relational pathology. The only way in which we can get an accurate knowledge of these conditions and their significance in relation to each other, is to study our cases in detail, without regard to the apparent cause of death. The aggregation of large numbers of people in our State hospitals gives a better opportunity for this detailed study than exists elsewhere, while the great variety of clinical and pathological conditions found, if carefully studied and recorded, will be of inestimable value in the study of the process of degeneration and the relativity of the different forms in which it manifests itself.

DOES THE LOCO-WEED PRODUCE INSANITY?

By CHARLES W. PILGRIM, M. D.,
Medical Superintendent of Hudson River State Hospital, Poughkeepsie, N. Y.

In the first number of the first volume of Scribner's Magazine Thos. A. Janvier published an exceedingly interesting story entitled, "In Mexico," in which the heroine makes use of a decoction of the "loco-weed" to produce insanity in a faithless lover. In the beautiful language of Janvier: "From before the time of the Spanish Conquest, through all these ages, even until the present day, this plant has been used by Mexican women, when faithlessness in love has bred jealousy, and jealousy, in turn, has bred a longing for revenge. From its flowers and leaves they make a decoction—a little bitter, yet not so bitter but that coffee will disguise it—and who drinks of this decoction surely goes mad. A terrible madness, beginning with failing sight and dizziness, with throbbing pains through all the brain; going on with delirium and strange perversions of sight; with visions which would be laughable but for the dread horror of their cause; with shooting, burning pains in throat and heart; with partial loss of power to breathe, and crushing sense of suffocation. And if the dose is so well gauged that death does not ensue, the pains at last pass away and the end is a violent, or melancholy madness that lasts for months, for years, or through all the remainder of the victim's life. Well have the Spaniards named this hideous plant *la flor de muerto*—the Flower of Death."

This story, which I read in 1887, was again brought forcibly to my mind about a year ago by the admission into the Hudson River State Hospital of a young man who had been brought from Mexico, suffering from insanity which his friends declared had been caused by the administration of the "loco-weed." The young man was a civil engineer who, seven months before his

clxvii

admission, had left his home in the State of New York for Mexico where he had secured employment at surveying and engineering work on a coffee plantation in the interior. According to his own statements his life on the plantation was marked by disappointment, excitement and excesses. He and his partner, who was a very dissipated man, were much troubled by lack of funds, due to the dissatisfaction which their work and habits caused their employers, and they were kept in a constant state of excitement by marauding Indians who were burning houses, killing people and destroying property. To go back a little in the story, which the patient told me during his convalescence, upon his arrival in Mexico he found that the firm by which he had been engaged was fighting other settlers, and especially one whose interests and estate were being looked after by a very unpleasant, drunken, over-bearing American. Disputes in regard to boundary lines were frequent and several fights occurred in which their respective clans took part. These quarrels finally resulted in the stoppage of the work and the natives who had been employed by the patient became dissatisfied and ugly. Failing to receive remittances from his employers he became discouraged, his habits grew worse and he finally became sick and was confined to bed with a low fever. During this time the natives were becoming more and more dissatisfied and threatening, although a few remained friendly to him. In order to understand the line of reasoning adopted by the patient and his friends, it should be remembered that the native Indians have an instinctive hatred for foreigners for having usurped their lands and are ever ready to wreak revenge by open violence or secret crime. While he lay sick one of the Indians with whom he had had trouble brought him some food, some of which he ate, although warned not to do so by a friendly native. According to his own statements his mind had been perfectly clear up to this time, but immediately after partaking of the food he became "crazy with thirst," was troubled by illusions and hallucinations, and mistook his own identity, imagining that he was one of the characters in a book which he had been reading. By this time the clamoring of the natives for their pay could no longer be quelled, and a violent scene ensued in which revolvers, rifles and knives were used. This of course aggravated the patient's mental condition and

his friends realized that they must get him from the interior to the coast where he could receive hospital treatment. He was, therefore, bound to a litter, which was carried by Mexican Indians, and the journey towards the City of Mexico was begun. The carriers found relief during a part of the way by placing the patient upon horseback and again by letting him walk, but the greatest part of the distance was covered as it had been begun. As may well be imagined the journey was full of hardships and dangers. Space forbids recounting the details, but a few incidents may be noted. While resting for the night on one occasion he was bound and placed in a position so near a fire that his feet were blistered. On another occasion he attempted to hang himself to a post with one of the ropes with which he was bound, and nearly succeeded in accomplishing his purpose. But the one incident which is of more interest than any other in showing the trend of the patient's thoughts is his statement that early in their journey they stopped at the ranch of a settler, with whom he had also had trouble, and asked for food. Some was brought by natives, and although one of the carriers whispered to him not to touch it, he partook of it and again became delirious and "crazy with thirst." Finally after many hardships he reached the City of Mexico, weary, foot-sore and unkempt, and was placed in the American Hospital where he was kept until the arrival of his father. Not much is known of his condition and treatment while in this hospital, as a letter addressed by me to the physician in charge received no answer. The patient, however, stated that while there he was kept bound and fastened in bed and though he begged to be allowed to use his hands in eating, the privilege was denied him. This statement was corroborated by the father who also said that they found it necessary to tie the patient in bed while on the steamer in order to frustrate his attempts at escape and suicide. During the five weeks that he was in the American Hospital, his treatment, according to information given by the father, consisted mainly of the iodides of potassium and mercury.

When he came under my observation he was in poor physical condition and showed unmistakable signs of secondary syphilis; his pulse was 90; tongue coated and tremulous; pupils dilated; gait feeble; appetite poor; and speech incoherent. He had no

correct appreciation of time and mixed up the occurrences of the past few hours with those of months or years back; his ideas of distance were erroneous and he failed to appreciate the difference between a few inches and several feet, on which account he had to be carefully watched in order to prevent him from falling down stairs; he had hallucinations of hearing, talked and muttered to himself in Spanish and was untidy and careless in his habits. The extensor muscles of the left wrist were paralyzed. Under tonic and specific treatment the patient began to improve and at the end of five and one-half months he was discharged recovered.

Such, in brief, is the history, and, while to my own mind, the patient's insanity was due to syphilis, dissipation and climatic influences, his friends remained steadfast in their belief that the "loco-weed" had been given to him in food by the Indians, and they based their belief not only upon the statements of the patient but upon the positive assertion of a native doctor who had at one time treated him.

In order to satisfy myself of the incorrectness of their claim I began to look up the subject, and entered upon an active correspondence with persons who might in any way throw light upon it. The physician of the American Hospital, as stated, failed to reply, as did also a priest whose address had been given to me by a sister of the patient. Several others, however, replied at length, and the salient points are herewith presented:

Mr. Janvier, after my letter had followed him from America to several points in Europe, wrote as follows: "The 'loco-weed' of Northern Mexico is the *datura stramonium* of our pharmacopeia; the plant is known also in Southern Mexico together with another 'loco-weed'—*mariguana*—our *cannabis sativa*. Doses less than fatal produce vertigo, headache, dimness of vision or perversion of vision, confusion of thought, sometimes amounting to slight delirium; strange feelings in throat or chest, sometimes a feeling of suffocation, often attended by nausea. A disposition to sleep sometimes, but not always, is induced. Fatal doses produce pain about the heart, excessive thirst, vomiting, strangulation, anxiety and faintness, partial or complete blindness with dilation of pupil, sometimes swelling of the face, deafness, headache, vertigo, delirium—

sometimes of a furious, sometimes of a whimsical character; tremors of the limbs, palsy, and ultimately stupor and convulsions ending in death.

"It is the popular belief (of which I made use in my story, by reference) that a permanent madness can be induced by the 'loco-weed.' Dr. Eduardo Liceaga, the leading physician of the City of Mexico, and the eminent Dr. Elenterio José Gonzales, late of Monterey, have denied this positively. I have known of one case of insanity that was attributed to this weed, but not certainly traced to that cause, in which the madness lasted for three months and was ended by death."

Dr. Isaac Ott, who has investigated the mydriatic and narcotic properties of the "loco-plant" (*astragalus mollissimus*), said: "Whilst 'loco' produces in horses some cerebral phenomena, I have not seen anything to make me believe it would produce insanity in man."

Dr. Edmond Goldmann, who practiced for several years in Monterey, wrote as follows: "I have had no personal experience with the 'loco-weed' and all I could communicate to you would be from hearsay. The name 'loco-weed' signifies an herb that produces mental disease. In Mexico, however, people attribute this effect not so much to the 'loco-weed,' which is a species of *astragalus*, as to the stramony leaves and seeds (*Datura Stramonium*). The 'loco-weed' is always dreaded by the stockmen, on account of its baneful effect upon cattle, horses and mules. In Monterey I saw a few cases of insanity which were attributed to the 'loco-plant.' Of course I was skeptical and requested that a sample of the noxious weed be brought to me. It turned out to be stramony in all cases. There are so many causes for insanity in Mexico—to begin with, the prevalence of syphilis to an alarming extent and of such malignancy and stubbornness as I have never seen in any other country,—that one need not look for the causation of a pathological state of the brain to a narcotic like stramony. Malaria and a number of other causes also furnish many cases of brain affection, and thus I may sum up my experience as to the influence of a narcotic like 'loco-weed' or stramony, to have been altogether negative on this point."

Dr. Mary Gage Day, who has carefully studied the effects of the 'loco-plant' (*Astragalus mollissimus* and *Oxytropis Lam.*

berti) upon animals, and who furnished the article upon this subject for Foster's Practical Therapeutics, informed me that she knew of no case of insanity produced by the "loco-weed," but that men who were employed to cut the green weed upon a ranch in Comanche county, Kas., in 1883, where its effects upon cattle had been particularly baneful, were invariably attacked by nausea, vomiting and sick headache after a few days' work, and that nothing would induce them to continue cutting the weed after these symptoms came on.

Dr. Benavides, who is now practicing in Mexico, wrote that the Aztec Indians use the dried leaves of stramonium and cannabis sativa for smoking by mixing them in small quantities with tobacco. He added that when they wished to poison a person they either mix the dried leaves very strongly with tobacco or make a decoction and administer it in some drink. He knew of no case of insanity due to the use of these plants.

Dr. Henry M. Hurd, in a very interesting letter which was published in the Journal of Insanity for October, 1885, called attention to the action of the "loco" or "rattle weed" upon animals and suggested that its physiological and therapeutical actions be studied upon man. He noted the fact that the effects described were due to poisonous doses and suggested the possibility that in physiological doses carefully administered it might prove curative in certain forms of insanity.

A great deal has been written in regard to the effects produced by this plant upon animals and it is well known that "grass-staggers" is produced in those who feed upon it. The prominent symptoms are such as would be due to a loss of muscular co-ordination. They become weak and staggering and a slight blow under the jaw of an affected animal causes him to rear and fall over backward. The brain as well as the cord becomes affected and it is said that the animal acts as if absolutely crazy. He cannot be coaxed or driven and becomes exceedingly dangerous. He loses his shining coat, falls away in flesh, refuses to eat even when food is placed in his mouth, and finally dies of exhaustion. Although tormented by a persistent thirst which impels him to seek water, when it is found he does not drink, but lies down in it and frequently drowns in a very shallow stream. Stock-men state that no animal will eat of the weed unless driven to it by hunger, but when it has once been

tasted it seems to possess for them the same fatal attraction that opium does for too many human beings and they will then refuse all other forage and wander for miles in search of the plant. While it is well known that stramonium, cannabis sativa and kindred plants, produce temporary delirium, and even death when given in excessive doses, and that their long continued use will result in marked mental disturbance, my investigations have convinced me that there is no "loco-weed" which will, in single doses, produce permanent insanity. The contrary belief, however, is so firmly established in the minds of Mexicans that a bill has recently been introduced in the legislature in the State of Queretaro, as I have been informed by Dr. Benavides of San Pedro, forbidding the cultivation of stramonium and cannabis sativa on account of the evil uses to which such plants are put by the native Indians. Indeed it is a common belief in Mexico that a decoction of the "loco-weed" was administered to the Empress Carlotta just before her departure to seek assistance from Napoleon and that it was the cause of her insanity and subsequent seclusion at Miramar. Mme. del Barrio, who accompanied the Empress from Mexico and who for more than thirty years has been the faithful companion of her lonely life, clings tenaciously to this belief. To the alienist, of course, no such explanation is needed, as the death of her father, to whom she was devotedly attached, the loss of the crown, which was more to her than life, and the knowledge of the futility of her efforts to save Maximilian from the fate which later befell him on the "Hill of the Bells," were more than enough to upset even a stronger brain than hers; but the average Mexican brushes aside all such causes as trivial and remains firm in his belief that some time the secrets of State will show that this dread weed was the sole cause of the hopeless madness of the unhappy Empress.

THYROID IN INSANITY.

By B. W. STONE, M. D.,
Nashville, Tenn.

The favorable and often curative influence of thyroid feeding upon the condition of myxœdema is well known. It is probably proved that myxœdema is the result of imperfect action of the thyroid gland. Statistics gathered show that in 65 per cent. of the cases of surgical removal of goitrous tumors myxœdema has subsequently developed.

It is a common observation that coexisting with myxœdema there is nearly always mental impairment, generally imbecility.

The employment of thyroid extract to remove the myxœdema was, as was to be expected, followed by the amelioration or subsidence of the mental symptoms coincidently with the physical.

The splendid results obtained with thyroids, in the myxœdematous forms of mental aberration, led to the pursuit of experiments and investigations as to their value in other forms of insanity, even in those types where there seemed to be no symptom indicating the coexistence of myxœdema. It cannot be claimed that such experiments were based upon groundless empiricism, nor that no more could be expected from the employment of thyroids in insanity than from the use of most of the so-called animal extracts in the various diseases they are said to influence favorably. Happily the use of thyroids in almost every form of insanity has demonstrated that benefit and even recovery may be confidently looked for in quite a large percentage of cases. The favorable results following the many trials made of the remedy in the United States, Canada, Scotland, England, France, and Germany should lead the superintendents of the Asylums to make a fair test of it, especially in the more unpromising cases under their care, where chronicity seems impending.

My own experiments have been few, but so favorable, and the results were so obviously due to the employment of thyroids that I feel that I would be little less than criminal if I should fail to thoroughly try the effects of this remedy in nearly every case of insanity, before relegating to the irremediable class. If this discursive paper should induce other superintendents to make more extensive use of the remedy in their wards, I am sure it will have done good.

Case No. 1: Widow, aged 37. Has two children, both feeble-minded. Patient when admitted to Morningside had had melancholia of a demonstrative type for two months. Had never been insane previously. None of her ancestors had ever been insane. She became insane from shock induced by the murder of her husband in Illinois (not a southern State). She possessed a stout physique, full habit, countenance somewhat heavy and speech slightly thick. These symptoms, of course, led me to suspect the existence of myxœdema in incipient form. Her child, whom I saw, had the same indications in more marked degree. The patient's delusions were that her husband's brother was trying to hypnotize her, and to rob her. She heard voices, and had hallucinations of sight, especially after nightfall. She slept little from fear of harm. After admission the patient received for six weeks the ordinary plan of treatment, without the slightest apparent benefit. She was then placed upon 5 grains of desiccated thyroids twice daily. In one week she was more quiet. The quantity of thyroids was then increased to fifteen grains daily with more marked improvement. When the quantity was increased to 20 grains she gained more rapidly, and in a month after beginning treatment she seemed well. Her friends were informed, the remedy was dropped and arrangements in a few days were made to send her home. In one week after stopping the thyroids she grew worse and in two weeks she was as insane as she had been at any time. At this time the remedy was begun again, improvement set in at once, and in one month she was entirely restored. She has remained well about a year and by my advice she continues to take an occasional dose of thyroids to prevent a relapse into her former condition of health. The appearances indicating myxœdema slowly grew less distinct as treatment progressed.

Case No. 2: Mrs. B., aged 26. Married at 20. Never insane previously, and no hereditary taint. Her father was tubercular. She had had acute mania five weeks when admitted to Morningside. She was noisy, violent, insomniac, destructive, and refused to take medicine and food. Had lost twenty-five pounds in weight since her insanity began. Ordinary treatment was pursued for two months without any appreciable benefit. Thyroids were then used and within forty-eight hours she became quiet, and in three weeks she seemed almost well. Her husband then came to see her, and believing her well, he, against my advice, removed her. Thyroids were discontinued and in forty-eight hours she grew worse, was returned to me and in five days was as insane and violent as she had ever been previously. Under thyroids she began at once to improve again and in six weeks longer she was restored fully. She has been well eight months, but takes occasional doses of thyroid for a safeguard against relapse. This patient could never take over fifteen grains without dangerous tachycardia. She had no indications of myxedema.

I have mentioned these two cases, of melancholia and mania, respectively, on account of the palpable evidence in each that the mental improvement was due to the influence of the remedy and not a mere sequence of its employment. In each case improvement followed treatment within one week. In each there was retrogression within a week after the remedy was left off, and improvement again when the remedy was recommenced.

Case No. 3: Miss R., aged 49. Single. Father was insane. Patient had been insane twice previously, first attack at puberty. She had when admitted been laboring under melancholia for five months certainly and probably nine months. Was treated at Flint, Mich., by the Secretary of this Association. She was occasionally strongly inclined to suicide. She had some degree of exophthalmos, as did several other members of the family of which she was one. Besides this she had marks of myxedema and strong auditory and visual hallucinations. After trying ordinary measures ineffectually I adopted the thyroid treatment. She did not show marked improvement until the dosage had been raised to twenty-five grains daily. She then gained steadily under gradually increasing doses. She recovered in about three months after thyroids were begun, but only after

the daily quantity had reached forty-five grains. She took forty grains for two weeks. The smaller doses had very little effect upon her. She is still well but takes daily a quantity of thyroids. She has been well about six months. The noticeable features of this case of profound melancholy were: Unpromising history, the large dosage of thyroids tolerated, the the necessity of the enlarging doses and the slow but steady improvement under their use. I understand her father is still insane. He has, however, improved very much the past six months upon thyroids taken at home by my advice.

Case No. 4: Mrs. E., aged 27. Married. Had profound delusional melancholia for twelve months before treatment by thyroids was begun. Most of the period her insanity was decidedly stuporous. The remedy was badly borne; always increased the heart's action; would often nauseate her; there was increased nervous irritability and there was decided increase of mental activity. Her delusions persisted, nevertheless, but she seemed to be less and less influenced by them. Her general health markedly improved. Her color grew ruddy and the skin became softer and more moist. Her pulse several times went above 120 and it was finally decided to leave off thyroids temporarily at least. She had then been taking the remedy for two months. Curiously within twenty-four hours she began to show marked improvement in mind. Her delusions gradually gave way, and in three months more she was fully restored. I believe this patient owes her recovery from an unfavorable type of melancholia to the thyroids, although there was no decided mental change until after the withdrawal of the remedy. She had been apparently losing in intellectual strength before the exhibition of thyroids. It is this feature which prompted me to present her case.

Case No. 5: M. W., aged 36. Single. Had delusional mania of four years duration when admitted. He was noisy, destructive and inclined to be very violent. Under thyroids he became quiet in three days, and during the four months of his treatment he has steadily improved in mind, and is now almost well.

Case No. 6: Mrs. T., aged 27. Had chronic mania with tendency to dementia. She was turbulent, obstinate and un-

controllable. Thyroids had the effect to render her much more quiet and amenable to control.

Case No. 7: Mr. M., aged 28. Melancholic for twenty months with tendency to dementia. Case probably hopeless so far as recovery is concerned. His habits were unclean. His clothing and bedding were often soiled. He tore up quantities of goods for matter to chew; for example, woolen and cotton goods, hair from mattresses, grass, paper, etc. Thyroids were given to influence a change of his habits. They had to be omitted a month on account of dangerous effects upon the heart, no beneficial effect upon his mind having resulted. Subsequently he grew worse in every way and six weeks ago the remedy was recommenced, this time with prompt and decided effects. His mind is clearer and his habits are all very much improved.

The last three cases illustrate the happy inhibitory effects upon the habits and disposition of insane patients induced by thyroids. These effects are frequently observed, even when the patient labors under an incurable form of insanity. The dementia of the last mentioned patient was profound and chronic. The violent maniac often becomes quiet and harmless. The chronic melancholiac even loses a measure of his sadness. The last case reported shows that the use of thyroids may scarcely affect the disease at all at one period and produce most beneficial effects in the same patient at another time. The more favorable effect is doubtless due to more receptive condition of nervous and general physical constitution. It may then be very important to make a second or third set of experiments before obtaining good results. I am sure that the failure of some alienists to obtain good results from thyroids is due to insufficient size of dose taken. It is often found that ten grains twice daily will secure the full benefit of the remedy. It is seldom that less than this amount will be of any service at all, often more than this is necessary. My highest dose was fifty-five grains daily to a strong man. I regard it as important that doses should be given about the times of the morning and noon meals, in order that the effect upon color, pulse and temperature may be more accurately noted in the light of day. The full effect of the dose will be manifest within six hours after taking it. If the remedy should be given about the even-

ing mealtime dangerous appearances or indications might escape observation on account of sleep or darkness. I have more than once had my patient's pulse to go above 140 beats to the minute. In two cases the pulse went suddenly above 150. It is, therefore, important that so dangerous a remedy should be used with the greatest caution. It should be used only when it is very convenient for the physician to be summoned promptly and often to determine the quality and rate of the pulse. I would not be far from the truth were I to say that an insane person should be treated with thyroids, only within the insane hospital, where the physician can be at hand at all times. As I regard it as important that restored patients should take occasionally doses of thyroids as a prophylactic against future attacks, these doses, being much smaller than those employed during the attack, may be safely administered without medical surveillance. The most favorable subjects for the thyroid treatment seems to be those of full habit and inclined to corpulency. Some fine results, however, have followed its use in those of delicate mould. I usually try to build up my feebler patients for a few weeks with good food and tonics before risking the exhibition of thyroids.

DISCUSSION.

DR. BANCROFT: I have listened to Dr. Stone's paper with some interest and I am very sorry I cannot feel the enthusiasm that he seems to express in regard to the use of thyroid in insanity. I think I have given it a very fair trial and while at first I was much inclined to think we would get beneficial results, I finally became very much disappointed. I am glad the Doctor calls attention to the serious physiological symptoms that may sometimes follow the use of this drug. It has seemed to me to not be without danger. There are one or two symptoms that invariably follow its use—the rapid pulse, sometimes irregular; the nausea, sometimes with vomiting, and the elevation of temperature, rarely over 100°. But the heart symptoms I think are really serious. There are one or two cases in which I feared the fatal results might be due to the effect of this drug on the heart. It has seemed, if it did any good at all, it was by inducing metabolism in the brain cells. At first we had, as the Association remembers, some very favor-

able articles appearing in the Journal of Mental Science. It was in reading those articles that I was first led to try it, but after three or four years experience with it, I must say that I have not been able to get any such satisfactory results. In looking over the cases I have tried it upon, I must say that I have not had but three or four cases cured and I have thought that those may have been co-incidences.

DR. G. H. HILL: I would like to ask Dr. Stone if there was any loss of flesh.

DR. STONE: Generally there was, but after a while they usually regained their flesh and improved more rapidly than before.

DR. HILL: In all cases where we have used it, we made test observations of the pulse, respiration and weight before using the thyroid and then after beginning the use of the thyroid we repeated those observations. There was usually loss of flesh, which was sometimes gained again. In one case of chronic mania of some four or five years standing, the patient very rapidly improved. After three days the patient was quiet and my assistant reported this fact to me. I told him I had seen patients made quiet by giving them tartar emetic or anything else. I concluded that she was simply sick, depressed, but the improvement continued from that on. She went out of the hospital in a few months and has remained in a good mental condition until a few days ago when I saw a notice of her death in the paper. I have been unable to learn the cause of death. I have seen the results of the use of thyroids in other cases. But my experience has been much like that of Dr. Bancroft, in that we had some good results at first, but since then I cannot say that we have had any results worth reporting. We have three or four patients now taking the thyroid, but as far as I can see there has been no change in their mental condition as the result thereof.

DR. BURGESS: At first we tried the thyroids in all classes of cases, dementia, melancholia, and in fact all forms of insanity. Based on this experience, the rule I have now formulated is that it is worthless except in stuporous melancholia. In some forms of this disorder we got good results, but in all other cases there was no real benefit; some were temporarily improved but they all relapsed. In one case, where there was

latent phthisis, I am satisfied that we simply hastened the death of the patient. I consider that thyroid is indicated and should certainly be tried in stuporous melancholia, where there is no tendency to phthisis.

DR. C. G. HILL: I think this Association owes it to itself to make a thorough study of the use of thyroid in the insane. The conclusions certainly show that the subject needs further investigation. One gentleman reports case after case of patients cured and sent out of an institution. Another reports no benefit. And the report of the gentleman just made, which by the way is at variance with my own observation on the subject, I think should encourage us in courting a very thorough investigation. I have been using the thyroids since they were first introduced into commercial use, in fact before they were made by the manufacturer, when we used the thyroid of the sheep. In a case that would not recover under ordinary methods, or any patient which had been neglected, I would not feel that I had done my duty until I had subjected the patient to the use of thyroids. Sometimes a cure and sometimes no improvement will occur. Dr. Stone uses large doses. I started with large doses but finally have dropped down to small quantities, six or seven to ten or fifteen grains, from seven to ten grains generally, and have continued this for a long time. Large quantities are fraught with so many bad results that it is my observation we are not justified in using more than ten or fifteen grains. As to the class of cases, I must say we are still at sea. One recommends it for melancholic disorders and another for stuporous melancholia. In this matter we have had to go it blindly as it were for there is nothing to indicate the cases that will be benefited. Acting on the suggestion of Horstly, that the thyroid gland in monkeys produces motor disturbances, it occurred to me that the motor disturbances in these patients is an indication for the use of thyroid. Without having looked over the statistics I have on that subject, I imagine the treatment with the thyroid finds its best results in those cases. On the contrary, I have abandoned it long ago in melancholia, because it seems to me in those cases there is nothing to be gained. Dr. Stone speaks of giving it in gradually increasing doses, in cases of melancholia, up to forty or fifty grains per day. Very probably our melancholic patients are not benefited because in

the low state of stomach activity our thyroid may not be absorbed and when given in large quantities it may be there will be sufficient absorbed to benefit the patient. Again, in its physiological action we have been at sea. Looking anxiously for some clew or explanation for the action of this remedy, I do not believe we have anything in the annals of therapeutics that compares with the thyroid gland. I have been making experiments for some time in regard to the action of thyroid, and a curious thing and at variance with all the statements made heretofore, we have shown that the action of the thyroid decreased the total elimination of solid matter and apparently decreased tissue metabolism. I have statistics that will show an absolute decrease to a remarkable extent. The total amount of urine is increased but the total solid is decreased ten or twenty or fifty or even a larger percentage. Another curious thing is in the experiments that have been made to show that the supra-renals have exactly the opposite effect to the thyroid. I have made some experiments with the supra-renals and I find they increase the total solids just about as the thyroids decrease their elimination. If the thyroids decrease the elimination of solids, how is it that we have tissue reduction? That for a considerable time puzzled me but our pathologist, Dr. Richardson, suggested a solution, namely, in the solids of the urine we measure only the consumption of the proteids and not of the hydrocarbons, and it may be the thyroid causes a rapid breaking up of the hydrocarbons, causing an increased quantity of urine and, perhaps, an increased quantity of carbonic acid exhaled. Curious in this connection is the suggestion that if this is the action of thyroid, it might be found of considerable utility in the treatment of diabetes. Acting on that suggestion, before I left I got a report of a case of diabetes in which this remedy was used. The total twenty-four hours urine was collected from an old case of diabetes. The quantity represented 3,000 c. c. The total quantity of sugar was 216.96 grammes. On April 8th, after using thyroid from February 16th, the total amount of sugar was 153.915 grammes. In other words there was a reduction of sixty-three grammes of sugar in the total amount passed in twenty-four hours. This is only one case and it may be the patient varied considerably. There was more urine with the last analysis than at first, but the reduction of

sugar has encouraged me to make a further trial of it in these cases.

DR. BRUSH: We have had some contradictory evidence as to the use of thyroid, one using it in melancholia and another not using it in melancholia. It has just been recommended in diabetes. Three cases in which we have used thyroid, that were made decidedly worse, were cases of diabetes. Not only was there rapid increase in loss of flesh, but there was also marked increase in the amount of sugar. These observations I may say were accurately taken.

DR. MABON: We do not believe that thyroid yields results unless it gives a temperature reaction. This can sometimes be had from fifteen grains a day while in other cases it may be necessary to use five grains every two hours. It is our invariable practice to put the patients in bed and keep them quiet and when we do so we find that we do not have to deal with the troublesome conditions that have been mentioned. We are convinced that thyroid is useful not only in stuporous melancholia but also in the dementia and stupor which follow acute mania. In fact, I recall one case treated at St. Lawrence. A patient with acute mania became demented and apparently was passing into an incurable condition. He gained very rapidly in flesh without corresponding mental improvement. He was given thyroid in large doses and almost immediately began to improve. His improvement was uninterrupted and he made a complete recovery. In those cases where no improvement follows the administration of thyroid, we find it advisable to use it a second time (after a lapse of a few months) and occasionally a recovery is thus obtained. Some months ago I wrote to the superintendents of all hospitals for the insane in the United States and Canada for their views in regard to the value of this therapeutic agent and the opinions given were as divergent as those expressed here tonight, although the weight of evidence was in favor of the value of the drug.

DR. BANCROFT: I would like to ask anyone who has experimented with this drug, whether he has noticed any changes in the character of the blood, and also I would like to know what preparation he has used. I have always used the Armour capsules, containing I think five grains each.

DR. MABON: We use the Parke-Davis preparation.

DR. HILL: We also use the Parke-Davis preparation.

THE PRESIDENT: I do wish, gentlemen, that we could get some light upon this subject. Two years ago at my Asylum we tried thyroids pretty thoroughly, at least we gave them in quite a number of cases, perhaps twenty in all, and in various doses, from ten or fifteen to forty or fifty grains a day, and we absolutely failed to get any results at all. We absolutely failed to secure any reaction; could not even raise the temperature in any case. We used the Parke-Davis drug. I wish Dr. Hurd would tell us what he thinks on the subject.

DR. EDWARDS: I should like to ask Dr. Stone what the influence of the thyroid is on the thyroid gland in the patient, whether there has been any hypertrophy or atrophy or any change in the gland.

DR. STONE: With us there is very little notice taken of the appearance of the thyroid gland of the patient. It is not when the thyroid gland is enlarged that the thyroid is used but it is when there is deficient action or almost no action of the gland. The gland may be enlarged yet composed mainly of connective tissue. But I have never noticed any effect on the thyroid gland from the use of the thyroids. We use Parke-Davis thyroids and Armour thyroids, but for a short time we have been using a preparation made by the Phospho-Albumen Company of Chicago. It is cheaper and I think has some aromatics in it which rather improve the taste, but whether it is going to do as well I cannot say. The patients like it better than the old preparation. I have not made any examination of the blood of the patients but in all of our cases where there is improvement manifested the patient improves in color, the complexion clears up and the skin becomes softer, less husky. As expressed by Dr. C. K. Clarke of Canada, the remedy rejuvenates the patient. It promotes the metabolism of the brain cells. That is what I meant by continuing its use as a prophylaxis against the return of the insanity. The patient's weight is almost invariably decreased under thyroids, but I have known one or two patients in a short time to improve in weight. Reference has been made to mania and melancholia. I reported two cases, one of each kind. One was a case of mania which recovered, manifestly the effect of the thyroids, and the other a case of stuporous melancholia, also cured by thyroids. During

the treatment in each case the use of the thyroids was omitted for a while and the patient got worse, and as soon as they were recommenced the patient improved. I have not included in this report by any means all my patients. Some of them were not improved by the use of thyroids. Dr. C. K. Clarke has made some very valuable reports on the use of thyroids, and Dr. Brush also. It is seldom that any of these investigations have been pursued that they do not encourage further trial of the remedy.

SUBCONSCIOUS HOMICIDE AND SUICIDE: THEIR PHYSIOLOGICAL PSYCHOLOGY.

By CHARLES F. BANCROFT, M. D.,
Superintendent of New Hampshire Asylum, Concord.

The last few years have witnessed a change in the conception of consciousness. Experiments in the psychological laboratory are illuminating the dark and hitherto unexplored recesses of the mind. Many experimenters are reaching the conviction that consciousness is no longer the unified psychic existence we have hitherto regarded it to be. Some are beginning to believe that consciousness itself may be disaggregated, and that consciousnesses may exist. And with these divisions of the consciousness are associated modifications of memory, not unfrequently amounting to complete amnesia.

Recent researches in physiological psychology may lead some to believe that the term "unconscious cerebration" is a misnomer. We are constrained to admit that it is extremely doubtful whether physiological processes in the higher brain can ever take place without a psychical accompaniment. This psychical accompaniment is a consciousness, and the more complete is the separation of this consciousness from the ordinary normal consciousness of the individual just so much more prominent becomes the amnesia.

Many psychologists now hold with Binet that "the same individual may have a plurality of memories, a plurality of consciousnesses, and a plurality of personalities; and each of these memories, consciousnesses, and personalities knows only what happens within its own limits" (Binet, *Alterations of Personality*, p. 356).

On the other hand, Wundt says that, "It is wholly unnecessary to assume the existence of a mysterious mental double, the
cbxxvi

'other self' or second personality, or to set up any of the fanciful hypotheses so plentiful in this field" (Wundt, *Human and Animal Psychology*, p. 331).

To whatever opinion we may subscribe there is no doubt that normal consciousness may receive many modifications, some of which are a very slight departure from the ordinary daily consciousness and others are so extreme as to, apparently at least, establish another personality, so that, as Prof. James says, "The same brain may subserve many conscious selves, either alternate or coexisting" (Wm. James, *Principles of Psychology*, Vol. I, p. 401).

It has been customary for so long a time to consider consciousness as an indivisible existence that any assertion to the contrary has met with little favor. So many authentic instances of hypnotic trance and mysterious disappearances with altered personality have been reported, however, that it is easier now than formerly to believe in variations of the individual consciousness. For too long a time this interesting field has been relegated to charlatans. The scientific work in the psychological laboratories is doing much to illuminate an obscure subject. In this clearer light it is possible that many cases may receive a new interpretation.

It is a well known fact that homicide may be committed in the somnambulistic and epileptic state while the normal consciousness of the individual has been wholly or partially suspended. Such acts are invariably attended by amnesia; they are usually motiveless, and nearly always so extremely impulsive as to suggest a reflex origin. The attendant circumstances and the person's subsequent conduct are usually satisfactory evidence that the ordinary consciousness of the individual was obscured if not entirely obliterated.

The query arises, may not similar occurrences take place in other conditions than the epileptic? May not the normal consciousness be so modified by physiological and toxic conditions within the brain as to be obscured? The writer has met with four cases which suggest such a possibility. Two of these cases were published in the *Boston Medical and Surgical Journal* of October 14, 1897. The two which follow likewise favor the theory of a disaggregation of consciousness with such a narrow-

ing of its normal field as to render the subject psychically anæsthetic and amnesic.

Case I: L. D., age 50; farmer; father insane, one brother committed suicide, one sister and one niece insane; always well; was a successful farmer and one of the leading men in his town. Five months prior to his commitment to the Asylum his physical health began to fail. He had marked indigestion and insomnia. About two months prior to his commitment he began to be hypochondriacal and to manifest all the evidences of acute melancholia. One day he was left lying on his piazza apparently asleep. A short while after he disappeared, an immediate search was instituted, and he was found suspended by a rope from a beam in his barn. He was immediately cut down and as life was not extinct he was restored by artificial respiration.

He was committed to the New Hampshire Asylum August 9, 1888, in a state of intense melancholia. He passed through all the usual phases of that disease, being persistently suicidal and filled with active delusions. During the fall of 1891 he began to improve physically. His mind slowly began to clear up but he did not fully recover until the summer of 1892. The last few weeks of his residence at the Asylum were wholly voluntary. He was discharged November 7, 1892, "recovered."

During his long convalescence he frequently referred to his past condition and talked quite freely about his mental disturbance. He had no recollection of his attempt at suicide, although he recalled perfectly well subsequent attempts and desire to commit the act. Since his return home he has resumed his farm work and has assumed his former prominent position in town affairs. He still says that the suicidal attempt in the barn is an utter blank to him. He remembers lying down on the piazza and putting his straw hat over his face to shade his eyes, but further than that he has no recollection. It was evident at the time, however, that he must have planned his suicide with some care. The selection of the rope and the particular place in which he made the attempt all indicated much method and gave evidence of that careful attention to detail that is always associated with a clear active state of the consciousness.

The character of the man, his evident sincerity, his desire to thoroughly understand his own case lead one to the conviction

that he was telling the truth. Either, then, the shock of the nervous system induced by the protracted suspension occasioned profound amnesia of everything occurring after he lay down, or else normal consciousness was suspended and the suicidal attempt was carried out in that peculiar state of the nervous system that is attended with obscuration of normal consciousness and total amnesia for everything occurring during that period.

Case II: T. A., blacksmith; age 51; one brother has committed suicide. Patient has suffered from asthma for years. This has been better of late. It is thought that he over-worked while in the army, for he has for years since his army life complained of pain and a feeling of distention in his head. For this reason he was obliged to give up blacksmithing as the heat of the forge and the stooping posture in the act of shoeing horses gave him great distress in the occipital region. He was committed to the New Hampshire Asylum May 24, 1892, with the following history: Five days ago he came home from his work (he was then working on a city sewer) to his dinner, apparently all right, though complaining of the feeling of distention in the back of his head. He finished his meal and got up to bid his wife goodbye, and was in the act of kissing her when suddenly he fired a revolver which he had in one hand and which his wife had not seen. She screamed and ran from him. He fired two more shots hastily, one of which was discharged so close to her hand as to scorch the flesh. The police soon appeared and arrested him, but not until he had thrown the revolver into a barrel. When arrested he was calmly standing in the bed-room holding the hand of his little girl. He seemed dazed. His wife recalled, after the shooting, that for a few days he had acted morosely and strangely, although she did not think much of it at the time. At dinner and on his arrival from work she noticed nothing peculiar. But after dinner he asked if the baby was asleep, and then told her to put the child into another room and to follow him into another chamber. At the time she recalled that he looked a little strangely to her, but still she was not sufficiently attracted by his expression to think of anything serious.

The patient was immediately taken to the jail. For two days he appeared dazed and confused and complained of pain in his head. He would start suddenly as if something had happened

behind him. He gradually became clearer. A week after the occurrence he was committed to the Asylum at which time he appeared quite natural. He says he cannot recall anything of the shooting. He remembers coming home from his work, of sitting down to dinner, and he recalls the fact that it was a New England boiled dinner of which he was always very fond. He remembers a pain in his head, a feeling of distention, but nothing else could he recall until he stretched out his hand and felt the cold brick wall of his cell.

A fortnight after his commitment to the Asylum he appeared perfectly sane. His wife called and their meeting was affectionate. He disclaims all knowledge of the shooting, and says there could have been no motive as both he and his wife lived on the pleasantest terms. His wife corroborated his story, both insisting that their home relations were always happy. Both he and his wife regard the outburst as the result of working in the hot sun. There is one fact, however, of importance and that is that the patient has been a moderate drinker, and it is not unlikely that he may have stimulated regularly for years and to such an extent as to have induced that peculiar condition of inco-ordination and instability of the brain cells so characteristic of the toxic effects of alcohol. It was not drunkenness the result of a single excessive libation, but rather an actual poisoning of the brain elements—the final outcome of repeated, steady indulgence. When fully recovered the patient himself was finally inclined to accept this view as an explanation of his, to him, inexplicable act.

One feature deserves notice in these cases. They both present the unstable brain which is the outgrowth of neurotic antecedents or toxic indulgence. One of these individuals was descended from distinctly insane stock. The other had a brother who had attempted suicide, and the patient himself had been a chronic slow drinker for years, to the extent that we can believe that his alcoholic indulgence had left its impress upon his central nervous system. This is important. It is questionable whether disaggregation of consciousness, automatism, or subconscious activities of any magnitude can ever occur in healthy individuals. In all such cases close investigation is quite sure to disclose a pathological substratum which is itself the outgrowth of poorly organized or degenerative brain conditions.

Such cases possess great psychological interest and medico-legal importance. The statement that a man, not subject to epilepsy, can commit the most desperately homicidal and suicidal acts in a state of automatism without any realization of what he is doing, or any subsequent recollection of his deed is quite sure to be contested. The suspension of consciousness, or the disaggregation of normal consciousness during the period in which such homicidal or suicidal violence is attempted presents one of the most intricate problems of mind.

While consciousness has been well said to be insusceptible of definition, because it is a final axiomatic fact of our existence, we do know that it has a physiological basis in our central nervous system. That there are lower and higher levels within the nervous system is a pretty well assured fact. In the lower levels the neural pathways are definitely organized, their routes are permanently established. Consciousness either does not accompany their functional activity at all, or at least very feebly. In the higher levels the neural pathways are less permanently organized, being of comparatively recent origin, and consciousness is a quite constant accompaniment of functional activity in this region.

In the highest brain levels—the cortex—there is infinite functional, not anatomical, connection between cell structures, and there seems little doubt that full, normal, waking consciousness depends not only upon the associative action of the various neural pathways, but upon integrity of action in the entire cortical region.

Bianchi's experimental studies on animals have led him to believe that "the frontal lobes are the seat of co-ordination and fusion of the incoming and outgoing products of the several sensory and motor areas of the cortex. * * * The frontal lobes would thus sum up into series the products of the sensori-motor region, as well as the emotive states which accompany all the perceptions, the fusion of which constitutes what has been called the *psychical tone* of the individual. Removal of the frontal lobes does not so much interfere with the perceptions taken singly, as it does disaggregate the personality, and incapacitate for serializing and synthesizing groups of representations." (The Functions of the Frontal Lobes. By L. Bianchi, Brain, Vol. XVIII, p. 498.) Dissociation of cortical areas,

therefore, would lead to the disaggregation of consciousness and dissolution of the psychical personality.

This disaggregation of consciousness has been artificially induced in the laboratory and elsewhere through the agency of hypnotism. Sidis has well said, "Hypnosis is the more or less effected disaggregation of the controlling inhibitory centres from the rest of the nervous system; along with the disaggregation there goes a dissociation of the controlling guardian consciousness from the reflex organic consciousness. Dissociation is the secret of hypnosis, and amnesia is the ripe fruit" (*The Psychology of Suggestions*, Sidis, p. 70).

Now may not this same splitting up of the consciousness with its attendant amnesia, which has been induced artificially, occur as a sequence of profound physiological disturbance in the higher levels of the unstable brain? May not the poisons of certain fevers as well as of drugs, intense emotional agitation or shock lead to similar dissociation of these cortical areas? If integrity of function of the higher brain, from any of these causes, is interfered with then may we not expect disaggregation of consciousness and amnesia? As a result of this imperfect action of cortical areas, we can readily conceive that unrestrained reflex psychical activity may take the place of intelligent thought, that normal, waking consciousness and memory may both be obscured. And do we not see just this kind of automatism in somnambulism, in the delirium of fevers, in the peculiar mental state attendant on poisoning by *cannabis indica*, alcohol, and occasionally in profound nervous shock?

When lower levels within the central nervous system are functionally active without associative action in the higher levels, then there may be no psychical accompaniment, and the resulting movements may be purely automatic and reflex without even a suggestion of intelligence. When the higher levels themselves become dissociated for any of the reasons above mentioned then the field of the ordinary waking consciousness will be so contracted that the consciousness itself is correspondingly imperfect. This kind of consciousness has been called marginal consciousness, sub- or infraconsciousness and still again subliminal consciousness.

In this subconscious condition the normal inhibitory power of the individual is in abeyance. There is not only lack of con-

trol, but there is an absence of judgment, and what we all recognize by the expression *common sense*. A person reduced to the subconscious state is like a ship without a rudder. As Sidis has said, "The subwaking self is devoid of all morality; it will steal without the least scruple; it will poison; it will stab; it will assassinate its best friends without the least scruple. * * * The subwaking self has no will; it is blown hither and thither by all sorts of incoming suggestions. *It is essentially a brutal self.*" (Sidis, *The Psychology of Suggestion*, p. 295.)

It is this reduction of the individual to a condition of suggestible automatism, that renders him so dangerous to himself or others. If, previous to his lapse into this state, his mind had been filled with fixed persistent trains of thought, it is presumable that the cortical neural pathways which form the organic substratum of this morbid ideation were functionally associated. Before the waking consciousness was abbreviated normal inhibition was sufficiently strong to prevent the motor realization of this disturbed cortical activity. But when through toxic or intense emotional causes, or shock disaggregation of cortical areas occurs, then the entire central nervous system becomes a mere uninhibited mechanism acting reflexly to any stimuli that may reach it.

It is in this subconscious condition, due to disaggregation of cortical areas, that occasional inexplicable deeds of suicidal or homicidal violence may be committed. The Amok of the Malays is undoubtedly one of these subconscious explosions. Naturally gloomy, the Malay occasionally develops a condition of deep despondency in which he loses all hope, becomes suspicious of others, and broods over real or fanciful wrongs. Suddenly, without warning, while in this mental state the Malay loses all control and becomes intensely homicidal. Whatever happens, while passing through this fulminating psychosis, is as a blank to him. There seems little doubt that the "running amok" is an illustration of subconscious homicide.

As has been intimated these psychoses do not occur in the healthy individual. They are apt to be met with either among the insane or among those who are suffering from the toxic effects of alcohol, or of some specific fever, and particularly do such subconscious attacks occur in those whose antecedent hereditary history is a neurotic one.

Such neurotically predisposed individuals are extremely subject to imperfect, one sided mental action. They possess the soil favorable for the development of "fixed and insistent ideas." When once their minds begin to show derangement it is usually in the direction of special morbid lines of thought. It may be jealousy, suspicion of personal injury at the hands of others, insistent gloomy forebodings and the like. In other words such persons are subject to what Braid called *monoideism*, a psychical condition which he thought characterized the hypnotic state, "in which the mind was so engrossed with a single idea as to render it dead to all other influences."

The tremendous insistent energy with which the mind dwells upon a limited circle of ideas is very characteristic of certain types of insanity, particularly the alcoholic, melancholic, and paranoiac. It is worthy of note that it is in these particular types that homicidal and suicidal explosions are apt to occur. Ordinarily such explosions occur within the domain of consciousness. But occasionally, and more particularly in the melancholic state, or in that unstable mental condition due to acute alcoholic poisoning or to the brain degeneration following chronic alcoholic indulgence these homicidal attacks may occur in the subconscious condition. How are such subconscious acts to be explained?

Recent brain physiology favors the theory that the psychic life of the individual depends on or accompanies the associative action of innumerable branching filaments of the nerve cells. These filaments do not anatomically connect with one another, they rather approach each other, and maintain a functional but not an anatomical connection. In other words the connection between these interlacing nerve terminals is merely a contiguous rather than a genetic one. Those arborizations that have been most intimately and persistently associated with one another are more likely to continue this functional association than those that have been less intimately and continuously related. These latter filaments are supposed to contract, as it were, thereby dissolving their relationship with other contiguous arborizations, and the psychic states which accompany such fleeting associations are correspondingly brief and less permanently organized.

Presumably an extremely limited circle of ideas is accompanied by functional associative activities in limited brain areas. Long continued monoideism favors the functional exercise of these particular brain paths more markedly than others. Consequently nervous activity upon any stimulus will presumably seek these special channels. In the subconscious state attendant on sleep, nervous force, if aroused, will select these rather than other less used routes. The somnambulist is quite likely to obey the psychical suggestions that have been established in his waking hours. And it is interesting to note that in the somnambulistic state the individual is susceptible only to those sensations and perceptions that harmonize with the existing current of ideas. This coincides with the physiological theory that those interlacing nerve filaments that have been most persistently associated will still continue their functional relationship when the controlling influence of higher brain levels has been withdrawn. Hence the sleep-walker will proceed to act with deliberation and *apparent* judgment even though his consciousness and power of reflection are obscured.

It is a law that nerve force will flow over the paths offering the least resistance. Consequently whenever the waking consciousness is obscured through the cortical cell disaggregation following toxic conditions and mental disease of any kind then the nerve tracts that have been most frequently used will be the first to respond to external or internal stimuli. Once the normal waking consciousness is suspended then the subconscious state may come to the front with its automatic accompaniments and possibilities.

This subconscious state then may in reality be a kind of psychical reflex. Uninhibited auto-suggestion, rendered possible by the dissociation of brain areas usually active in the waking consciousness characterizes this subconscious state. In Case I the patient's mind, filled with intensely gloomy apprehensions, may have so frequently contemplated suicide and the ways of committing the act as to have rendered its automatic execution comparatively easy, when once the inhibitory powers were suspended. These inhibitory powers in turn were dependent on the united associative action of the entire higher brain. This disaggregation of higher brain levels that so suddenly terminated the waking consciousness, substituting in

its place subconsciousness, and interfered with normal inhibition, may be supposed to be the effect of mental disease, acting in the manner already outlined upon a very marked hereditarily predisposed nervous organization.

In Case II the usual fears and jealous suspicions so characteristic of alcoholism may have for a long period agitated the mind of the patient. When disaggregation of higher brain levels ensued as a result of the toxic effects of alcohol, then the first impulse that arose, being uninhibited, was instantly realized while the patient himself was in a subconscious state.

In both cases the subconscious condition was as instantaneously induced as is epileptic unconsciousness.

Admitting the fact that the ideas embodied in this paper are purely speculative, admitting, too, that amnesia must not be confused with loss of consciousness, still such cases as the foregoing certainly do suggest the query whether brain areas may not become functionally dissociated. It is with the hope that the physiological psychology of these somewhat puzzling but nevertheless actually authentic conditions may be discussed that the writer has presented this paper.

INSANITY AND HOMICIDE.

By H. E. ALLISON, M. D.,

Medical Superintendent Matteawan State Hospital, Fishkill Landing, N. Y.

That aspect of insanity which relates to crime and especially to crimes of violence, committed by chronic lunatics, dangerous paranoiacs, irresponsible imbeciles, epileptics and others, is possessed of an importance which concerns not only the medical profession but also attracts, just as strongly, every person who is interested in the administration of justice and in efficient methods for the protection of the community.

Upon occasions of serious crime, such as an assault with intent to kill, or a homicide, the physician, from his special knowledge of mental disease, is often called upon as an expert to testify as to the responsibility of the accused, and no one ought to be more thoroughly familiar with questions of this character, or more competent to determine them, than the alienist. In some instances of modified responsibility, such as are found in uneducated deaf mutes and imbeciles, it is difficult in all cases to determine the relationship of the offenders to the standard of the law by which they are to be judged, especially in the young. All such defective individuals whether young or old who commit or attempt to commit homicide should be held to a rigid accountability, and it should be ascertained with care whether they are subjects, fit for some special educational or industrial school, a reformatory, or an asylum for the insane. The simple declaration of irresponsibility in persons who are thus naturally defective, far from being a measure of leniency as many imagine, carries with it, on the contrary, grave consequences to the individual, for the mental condition which such a decision involves cannot be other than a permanent and incurable one, and the commitment to an asylum, without the subsequent intervention of clemency, must necessarily be for life.

Against the plea of insanity, there is a popular prejudice based upon a common belief that such plea is often used as a cloak to escape the penalty of crime. An occasion for such suspicion may arise in some rare instances, but, as a rule, the defense of insanity does not prevail as often as it should. This mistrust will become less prevalent as the knowledge of the medical profession regarding the various forms of mental disease grows more exact and fixed, to the exclusion of those ephemeral and transitory manias, always of doubtful existence and now happily becoming, like other exploded notions, simply historical incidents of the past.

Volumes have been written upon the subject of criminal responsibility and upon criminal law in relation to the insane, but the purpose of this paper is not so much to discuss these well worn subjects as to present the results of the operations of the Matteawan State Hospital in relation to homicidal cases committed to its custody. We shall include not only cases in which murder has actually been committed, but also those instances wherein direct and premeditated but unsuccessful attacks upon life have been made, as well as all assaults of the nature of an attempt to kill. The criminal acts of the insane are usually destructive acts, directed either against life or property, and spring from a fancied sense of injury to that egoism which is so largely and morbidly developed in most cases of insanity. Offenses committed by sane persons, as a rule, are unlawful appropriations of property either to obtain means to live an easy and indolent life or to gratify the appetites or passions. Out of twelve hundred and twenty convicts at Sing Sing in the year 1896, sixty per cent. were convicted of crimes against property; at Auburn, with a total population of ten hundred and fourteen, the proportion was fifty-eight per cent., and at Clinton, where, so far as possible, the habitual criminal is confined, the proportion of crimes committed against property was seventy-one per cent. The acts of the insane, on the contrary, are directed far more often against the person and are of a dangerous character. Out of the present total insane population in the public institutions of the State of New York, about one person in thirty is held in custody for having committed some crime for which he is under conviction or with which he stands charged, and about one in every hundred

inmates has either committed or attempted to commit an assault with intent to kill, or an actual homicide. This latter statement is probably rather under than over the truth, and does not include the more numerous instances of minor or simple assaults.

The Matteawan State Hospital receives as patients all those who may be found to be insane while undergoing sentence of imprisonment in any of the penal institutions of the State, and also all cases charged with crime who enter the plea of insanity before the courts and are committed thereupon to the custody of this hospital, pending recovery. Out of two thousand and eighty inmates thus received, six hundred and sixty-two were charged with arson, assault, and murder, of whom four hundred and twenty-nine were received from the prisons of the State and two hundred and thirty-three from the courts. Thirteen of the total number were assaults to rape, * five were assaults to steal and rob, but in the large majority of instances the nature of the assault was not stated. There were eighty-five cases of arson and while many of them probably were designed to destroy life and actually accomplished the purpose planned, yet the exact number of such crimes which were attended with fatalities cannot be ascertained from the early records of the hospital. Undoubtedly, nearly all of these persons charged with arson and with assault the nature of which is not specified, were elements dangerous both to life and property, but from their imperfect histories they cannot be classified as clearly homicidal.

We propose to consider only such attempts as were unmistakably made upon life and consequently have rejected a great number of assaults for other minor purposes wherein neither the motive nor the nature of the assault is given. Omitting, therefore, all cases of assault to rape and to rob and all cases of arson, even though severe injury or death may in all probability have been intended and have so resulted, and excluding also all other minor and unclassified cases of assault and confining this report to examples wherein direct homicide or attempt at homicide has been committed, we have a total of three hundred and ninety-eight insane persons charged with successful and unsuccessful attempts upon life.

* In addition there were sixty-eight commitments on the simple charge of rape, assault not being alleged.

A detailed statement is given as follows:

Crime.	Sentenced for life.	Sentenced for a term of years.	Court cases, or unconvicted class.	Total.
Murder.....	90	5	84	179
Manslaughter	7	41*	5	53
Assault to kill.....	.....	82†	84	166
Total	97	128	173	398

It will be noticed that out of one hundred and seventy-nine insane persons who have committed murder, over fifty-three per cent. were received from the prisons, having been convicted and sentenced for life. So far as it is possible to judge from their histories, and from the character and course of their disease, at least forty per cent. of such convicted cases were insane at the time the crime was committed. In many instances, the fact of their insanity was not recognized at the time of their trial but in others, the plea was set up as a defense and failed.

Life convicts that recover are returned to prison, but of the total number committed to our custody the majority remain insane until death, and are detained at this hospital. A few years ago on account of our then overcrowded condition, an exception to this practice was made and a number of patients having been found to be incurably insane, were pardoned and transferred to other State hospitals, yet, notwithstanding this, out of all the life men in the State of New York at the present time twenty-four per cent. are inmates of the Matteawan State Hospital. These facts would indicate that mental disease and homicide are closely related, and that insanity itself is a direct and prolific cause of homicide. On account of popular prejudice or feeling, juries often do not recognize, or at least will not admit, the existence of insanity, and the convicted offender comes at last to the hospital by way of some penal institution but with the stigma of a felon added to the unfortunate burden of insanity. It is true that where sentence is imposed for life, and many advocate this procedure in all

*Average length of sentence, seven years, allowing commutation for good conduct.

† Average length of sentence, four years and eleven months, allowing commutation for good conduct.

instances, society is protected, whether the individuals be sane or insane, particularly in cases of dangerous paranoiacs; nevertheless, an equal safeguard would be afforded by committing them to a special hospital for the insane, as they are incurable and would undoubtedly remain for years if not till death. In any event, they reach the hospital through the prison. If the idea of hospital treatment for the insane criminal should be relinquished and punishment be enforced by penal imprisonment for all crimes of the nature of assault irrespective of the mental condition of the accused, the theory of retribution would overreach itself, because large numbers of dangerously insane persons who commit minor assaults and who are now frequently sent to the asylum, would be sentenced instead for short periods to the prisons and set at liberty upon the expiration of their terms, often later to commit a homicide.

The insane hospital is necessary as an adjunct to the prisons, and in connection with it, the importance of a good medical service attached to each penal institution is evident. By the efforts of competent medical officers, the dangerous insane who by chance have been sentenced to prison for brief terms can be weeded out and committed either to a special hospital for the criminal insane or to the various State hospitals, where, if they continue to harbor homicidal delusions, they may be detained for life or until a change in their mental condition renders them, in the opinion of the medical superintendent, safe to be at large.

The most competent physicians obtainable should be selected for prison service, men whose tenure of office should depend upon good service. In all matters relating to health and mental disease, they should be independent of the warden and invested with sufficient authority to enforce their ideas and should be held responsible for results. There should be a better prison system of case records and case histories. The insane should be sifted thoroughly from the prison. These institutions should properly be punitive and reformatory in their character and not receptacles for lunatics. Greater care should be exercised by the courts in determining the question of mental disease. The present condition of expert testimony is partly responsible for this. The law frequently confines the opinions of medical men to grounds based upon the hypothetical question and restricted to certain partial aspects of the case which may be

brought out by evidence at the trial. Moreover, the physician often enters the case as an advocate. There is a growing opinion that experts should be summoned by the court, should have full access to the defendant, and after all evidence has been submitted should make to the court a statement of facts from which their deductions are drawn and report in full the reasons for their conclusions. Even then, no one would expect the results to be infallible, because human judgment at best is liable to error. It would, however, reduce the present number of improper convictions. The convict is said to belong to a degenerate class, and there is considerable foundation for this statement, as without doubt many persons are sentenced to prison who should have been committed originally to the care of a hospital, there to remain under accountability to the court until discharged by recovery or death, or by some other method of legal release.

The average age, at time of sentence, of ninety-seven life prisoners committed for murder and who subsequently reached this hospital for the insane was thirty-three years. The average age of eighty-four unconvicted cases of homicide directly committed by the courts to this hospital as persons insane at the time of the act was thirty-eight years. The average length of sentence to prison imposed upon forty-six persons, other than life men, who were convicted of murder and manslaughter and who became inmates of the Matteawan State Hospital while serving their terms, was seven years.

Epilepsy is supposed to be a prolific cause of homicide, but as compared with other forms of insanity, it does not appear to be an important factor. However, this is apparently due to the relative infrequency of the disease. Out of two thousand and eighty cases of insane offenders committed to Matteawan only seventy were afflicted with epilepsy. The following statement shows in detail the crimes with which they were charged:

CRIMES COMMITTED BY INSANE EPILEPTICS.

Arson.....	3
Assault.....	16
Bigamy.....	1
Burglary.....	8
Forgery.....	4
Injury to property.....	1
Larceny.....	14
Mayhem.....	1
Murder.....	11
Perjury.....	1
Rape.....	4
Robbery.....	4
Sodomy.....	2
Vagrancy.....	1
Total.....	70

Forty per cent. of their number are charged with murder and assault, including mayhem, and to this category might be added arson and rape, which would bring the ratio of serious crimes against the person up to fifty per cent. Other forms of insanity, however, are so predominant that epilepsy does not appear as a large productive source of actual murder, only six instances being recorded out of a total of one hundred and forty-three cases of murder and manslaughter from the prisons, and only five out of eighty-nine from the courts, a percentage upon the whole number of convicted and unconvicted epileptic cases of 4.74 per cent., so that while the epileptic *per se* is a dangerous factor, he does not play a prominent part in the causality of murder.

Nearly one-half (forty-five per cent.) of the cases from the prisons who have committed homicide are affected with some form of mania either subacute or chronic, with delusions of persecution; about one-third (thirty per cent.) suffer from melancholia; a large share of which is probably caused by anxiety and confinement; seventeen per cent. are in a condition of either feeble-mindedness or imbecility, while 4.2 per cent. are epileptics. Of cases from the courts who are charged with murder or manslaughter, the greater portion (fifty-six per cent.) like those from the prisons are affected with some form of chronic mania. Among the court cases, melancholia is prevalent to a much less degree, being twelve per cent.

as compared with thirty from the prisons. The preponderance of cases of melancholia from the prisons arises probably from confinement and dwelling upon the nature and consequences of crime. The prison cases affected with melancholia offer the most encouragement for cure and from them are returned to the prison the majority of such few cases as recover. Twenty per cent. of those committed by the courts for murder or manslaughter are found to be either demented or weak-minded to such a degree as to be considered irresponsible, and 5.6 per cent. are epileptics. In both the convicted and the unconvicted, mania, in some form, appears to be responsible for the larger number of homicides. Delusions of suspicion and of persecution are almost universally present; the patient believes he is to be poisoned; that someone is to kill him; that he is tortured in various ways; that his business has been ruined; that slanders are circulated about him, and so through the whole category of persecutions that to him are unendurable.

The character of their beliefs renders the population of a hospital for the criminal insane a difficult and trying one to care for. So many explosive elements are contained therein that it requires great vigilance on the part of attendants and officers and a full knowledge of the patient's daily condition on the part of the medical superintendent. The variety of chronic mania known as paranoia is a very common form of mental disease among homicidal lunatics. Those so afflicted constitute a most cunning, untruthful and disagreeable class of men, and are a very disturbing and ungrateful element, magnifying the most trifling acts into personal grievances, and often meditating revengeful and homicidal designs.

In collating these cases, it is noticeable that out of fifty-three instances of manslaughter, which is a crime of lesser degree than murder, forty-one were originally sentenced to prison for a term of years and seven for life, while only five were committed by the courts upon this charge to the hospital for the insane. It has happened within my experience where homicide has been committed and the defendant indicted for murder in the first or second degree, the penalty for which is death or imprisonment for life, that the plea of insanity has been withdrawn and a plea of guilty in a lesser degree has been made and

accepted, both parties in the case being unwilling to risk the uncertain verdict of a trial. This course is often the result of a compromise between the counsel for the defense and the district attorney, and in this manner many insane men are sent to prison for a term of years, neither side being willing to try the issue. By this easy abandonment of the case the public is led to believe that the original plea of insanity was simply offered as a cloak and we believe the procedure has given rise to popular prejudice. The average sentence imposed in cases of manslaughter as have subsequently come under our care by transfer from the prison, is seven years, after making due allowance for commutation for good conduct. Another factor which creates intolerance of the plea of insanity is the occasional but rare discharge of the defendant, immediately upon acquittal, whereas the testimony may have shown that the mental derangement by its very nature, was of a permanent but intermittent character, though nevertheless a continuing disease as in the case of Marie Barberi, where the defense was "psychic" epilepsy. The remedy would be for the jury to bring in a special verdict to the effect that the patient is dangerous to be at large, on account of the liability to such periodic outbursts, upon which verdict a commitment could, and should, be made to a hospital.

There is a class of the insane who while not committing murder, are yet homicidally inclined by reason of their delusions, namely, such offenders as commit assaults in the first degree with intent to kill. An insane man whose aim with a pistol is bad, or whose blow with a deadly weapon fails of its intended purpose is just as dangerous to the community as one who commits a murder. The sane man may be actuated by transient passion, but the man who is governed by the fixed delusions of insanity may be a permanent menace to others and requires different custodial care and treatment. Those who are opposed to the recognition of insanity as a defense for crime and who advocate that a penalty of imprisonment for a fixed term should be exacted for every offense, forget that by imposing a definite sentence, the ultimate result would be to free a large number of these dangerously homicidal men. By this method of procedure in the lesser crimes a short term of imprisonment would not always be an adequate method of dealing with the insane

criminal nor would it protect the community. The average commuted sentence imposed for assaults with attempt to kill in the cases of eighty-two convicts transferred to the Matteawan State Hospital from the prisons as insane was only four years and eleven months. Had not the asylum intervened these persons would have been set at liberty upon the expiration of their terms. One convict now in our custody has committed four separate homicides and served four sentences in prison. He was transferred here during his last term and has now been detained as a lunatic fourteen years over his time. A person with dangerous delusions should be detained in custody as long as his insanity continues.

The doctrine of "degeneracy" seems to be another bugbear. In the event of serious crime, if the courts should stamp the degenerate offender as an irresponsible person and thereupon commit him as such to a hospital for the criminal insane, to be held until recovery, such action would practically result in his confinement for life unless subsequently the court itself or the Governor should intervene and grant release. The doctrine of degeneracy is nothing new. The corollary of such a proposition surely denotes the existence of such mental and physical defects as can be modified only by a course of physical, moral and industrial training at a reformatory for an indefinite period, or which may be so pronounced as to necessitate commitment to an asylum for the insane. The adoption of such ideas in relation to criminals is not in the direction of laxity in the enforcement of law nor does it operate as a threat against the community, but, on the contrary, if more thoroughly embraced, would be a public safeguard.

It is probable that heredity exerts a potent influence in the production of homicidal insanity. From the meagre family histories which accompany patients admitted to this hospital, we find it difficult to determine much in this direction, yet from what we are able to ascertain, there is shown a close connection between insanity and crime in many instances. It is not strange that patients committed here for criminal acts should be found to have relatives in other State hospitals. That is often the case and is to be expected, but the intimate family association of insanity with homicide and crime is forcibly illustrated in the following instances at Matteawan; and when we consider how

little personal history we can gather, that much of our population is foreign to the State, and that the members of the family in most cases are widely scattered, there certainly would be a more extended list if one could get at the facts. The following cases are confined at Matteawan: Two brothers, one convicted of two assaults to kill and the other of robbery in the first degree; two brothers, both accused of murder in the second degree; two cousins, both charged with assault to kill; father and son, father had committed four homicides and the son was indicted for assault to kill; two sisters, one accused of assault to kill and the other of assault in the third degree; two brothers, both convicted, one of murder and the other of forgery; two brothers, both committed murder in the first degree. This paper does not deal with minor crimes, otherwise the number on this list could be increased considerably.

In connection with the subject of this paper, the following table is of interest as showing the disposition of three hundred and ninety-eight homicidal inmates at the Matteawan State Hospital, who have been charged with homicide, or assault in the first degree with attempt to kill. Two hundred and twenty-five were received from the various penal institutions, of whom ninety-seven were life cases, and one hundred and twenty-eight were under sentence for a term of years; one hundred and seventy-three were committed by the courts, to be detained until recovered:

TABLE SHOWING DISPOSITION OF THREE HUNDRED AND NINETY-EIGHT HOMICIDAL CASES COMMITTED AS INSANE.

Disposition of cases.	Convicted and sentenced for life.	Convicted and sentenced for a term of years.	Unconvicted and committed by the courts.	Total.
Still in custody	45	87	105	187
Died	22	17	43	82
Transferred to other hospitals for the insane	11*	21†	2	34
Transferred to prison as recovered	10	26	.....	36
Released	4‡	14	8	21
Recovered and returned to court for trial .....	.....	.....	16	16
§ Aliens still insane returned to homes in foreign countries ...	1	1	8	5
|| Escaped	3	3	1	7
Discharged, destination not stated in early records	1	9	.....	10
Total	97	128	173	398

These figures possess value only as showing what has been done in one hospital especially devoted to the criminal insane. They embrace a history of over thirty-nine years, but during the first sixteen years the total number of patients received was extremely small, and the records were very imperfectly made. Subsequent to 1875 excellent case histories have been kept, but the hospital has suffered from overcrowding, and, for lack of room, could not receive all the cases that should have been committed to its custody until the new institution at Matteawan was opened in the spring of 1892.

*Chronic (terminally demented) cases pardoned and transferred on account of overcrowding at this hospital.

†Terms expired, transferred on account of overcrowding.

‡Pardoned.

§One pardoned; one term expired; three released by order of court.

||Out of these seven there have been only two escapes in the last fourteen years, both from the farm. One, a convict who had nearly completed his term, and the other a court case, both charged with assault in the first degree.

I believe that the consideration of the question of the proper disposal of the dangerous criminal insane would lead to the following conclusions, the observance of which would greatly tend to lessen the dangers from homicidal insanity, namely:

That there should be special hospitals for the insane in connection with the courts and the penal institutions of the larger states;

A more thorough examination by the courts of the mental condition of persons charged with crime;

Better methods of obtaining medical expert testimony;

The granting of greater powers and authority to prison physicians;

More extensive clinical records in the prisons;

The acceptance of the doctrine that dangerous lunatics should be confined until mentally fit to be at large.

DISCUSSION.

DR. G. H. HILL: I think the papers are both excellent and either one of them worth coming to this meeting to have the privilege of hearing. In Iowa we have three hospitals for the insane, State institutions, and besides we have two penitentiaries, in connection with one of which there is an insane department. According to the law of the State that insane department has up to date only received what are called the criminal insane—insane persons who have first been convicted and placed in the penitentiary and afterwards placed in this department. It has not been customary to send what Dr. Allison described as cured cases directly to the penitentiary where the insane are cared for, but they have usually been sent in one of two or three ways to the insane hospital first. As a rule I think they are never transferred to the insane department of the penitentiary from the hospital for the insane, because of course they have not been convicted of a crime. But about three months ago in the city of Des Moines an insane man who had been in town a few days, coming there from, I think, Sioux City, went into a store and shot one of the members of the firm, killing him instantly. The man made no attempt to escape and acted peculiarly. He was immediately arrested by the police and tried for his crime. Although it was evident that he was insane, he was not disposed of as usual but was

sent immediately to the insane department of the penitentiary, there to remain until his mind was restored. There has been considerable comment in the Iowa papers on the action of the court in this particular case. It is thought that such a procedure will do away with the plea of insanity in trying criminals whose attorneys may wish to relieve them from punishment by that plea, because if they go directly to the penitentiary whenever that plea is made and remain in the penitentiary until their minds are restored, they will suffer the double stigma, as it might be called, of being considered criminals and being branded insane. Furthermore, if they are insane they probably will remain there, so it is not a desirable outcome for a person under trial. I think the action of the inferior court has already been supported by the superior court in our State, so that the law of the State is construed so that it can be so carried out and it was all right for the man to be so sent to the penitentiary. It is thought that if there is danger of having persons after committing crime sent directly to the insane department of the penitentiary, the attorneys are not likely hereafter to set up that plea. The papers show considerable research and study and I think the paper by Dr. Bancroft is one of the best I have heard before the Association.

DR. ESKRIDGE: I am very glad to hear the subjects of these papers discussed from a scientific standpoint. The papers are exceedingly interesting and I am pleased they are taking up this side of the work. I have long contended that we can learn more of the mind by studying the processes of disturbed consciousness, involution, and decay, than we can by studying the processes of evolution alone. These cases, especially those analyzed by Dr. Bancroft, well illustrate this. The first thing it seems to me is for us to determine if possible what consciousness is. It seems to me consciousness is a co-relation of a summary of past recollections with the impressions made upon us at the time to which our mind is directed. Of course all impressions made upon us at the time we are not conscious of and they have nothing to do with our normal state of consciousness. It is well known that this co-relation of a summary of past recollections is sometimes disturbed, or we may have our present consciousness disturbed so that a person readily conceives himself to be a new being and he talks of himself as a

third person and possibly of his past self in the first person, or perhaps *vice versa*. It is questionable with me whether there is such a thing as dual consciousness. It seems to me it may be explained in another way by agents that may disturb our train of thought. I do not like the term subconsciousness nearly as well as I do the terms subjective consciousness and objective consciousness. I believe subjective consciousness exists as long as brain function exists. I believe impressions made upon our mind when we are in an abstract condition may be brought out when we are in an unconscious condition. All of you are undoubtedly familiar with the case that occurred some years ago in which a servant girl was accustomed to dust the room of her master, who was a scholar in the ancient languages, and some years after she was stricken down with fever and quoted passages from the Arabian, Greek and other foreign tongues. The attendants were astounded to learn that she could quote from these ancient languages. On investigation it was found that her master had walked up and down the hall and read aloud, so that her brain matter had registered impressions without her knowledge. I have put upon record several cases of disturbed consciousness. The first was when I was at Colorado Springs for my health. A homicide was committed. A man had an altercation with another man and in this altercation he was felled with a blow from the butt of a whip. He got up a few minutes later, went to his cabin, got his gun and deliberately shot out through the cabin door. Unfortunately for the other man, he at that moment passed before the door. The man deliberately laid down his gun, walked by the body of the man he had murdered and went to his cousin's. He was seen crossing the prairie and was asked where he was going. He said he was going to his cousin's. He was taken to Colorado Springs and it was found he had retained certain impressions. He remembered an altercation, he remembered the report of a gun, he remembered meeting a man crossing the prairie and when asked how he felt then he said he felt strange, his eyes hurt him and he couldn't see clearly. It was clear to my mind at that time that the man was in a state of disturbed consciousness and in a condition of automatism he fired the gun. If he had had the gun at the time he was felled by his opponent he would have shot the man. His objective consciousness was

bleared or destroyed; his subjective consciousness, over which Dr. Bancroft very rightly says we have no control, was in existence and he fired the gun just as he would have done had he had his normal condition, but in his abnormal condition he fired it simply in the door of his cabin. The other man unfortunately was looking for him and came in the range of the gun. Another case, still more interesting from certain psychological standpoints, occurred in 1865. The two wealthiest men in Colorado at that time were a man by the name of Adams and a man by the name of Iliff. Mr. Adams was accustomed to furnishing the government with supplies. He obtained a contract to furnish \$150,000 worth of Texas cattle to the post. He had the promise of the government to afford him protection, because he had to travel through an Indian country to get to Texas and back with the cattle and he was fearful he and his men would be murdered and the cattle taken away. One Eastman, a foreman of Iliff, bought of Adams twenty head of cattle. When Adams asked Iliff for the money, he said he had bought no cattle. He went to Eastman and asked if he bought them for Iliff and he said no but he would pay for them himself. He decided finally to deed Adams a tract of land. The latter said to his wife, "I have bought you a farm out on the sand hills." She knew nothing about the transactions and did not know where it was. He went and bought the cattle for the government and on his return the cattle were all taken and everyone of the men killed except himself and his servant man, who died shortly afterward. After he got back he went to Washington and spent four or five years trying to get the government to restore him the money for failure to protect him. I think it was in 1868 or 1869 that Congress finally passed an act to give him \$150,000. This had been used up before, because he had borrowed the money for the purchase of the cattle and in paying lawyers to prosecute his claim, so that he was without a penny. A few days before receiving the money he suffered from a sunstroke by which he was rendered unconscious for some time. He was in more or less an unconscious condition for the next year. Finally he drifted to California and worked twenty years as a poor man, scarcely gaining sufficient to take care of himself and his wife. He never mentioned to his wife about this land, which had become valu-

able. In 1879 Mr. Iliff died. He had spoken of holding this land in trust for Mr. Adams. Later Mr. Adams drifted down to Santa Fé, New Mexico. He heard some man selling goods at public sale. The auctioneer proved to be Mr. Eastman. After the sale was over he went up to Mr. Adams and said, "How are you?" Adams said, "I am all right." Eastman said, "What did you do with that land?" Adams said, "What land?" Eastman replied, "Don't you remember the land I deeded to Iliff in trust for you?" Adams then was able to recall some incidents of the transaction. Eastman then offered to go to Denver and look it up. They went to Denver and found evidence to show that Eastman was correct. Suit was brought and the land was restored to Adams. This was a case of amnesia of more than twenty years. The amnesia extended over three years before he had the sunstroke and followed it over a period of eighteen or nineteen years. It shows we may have a case of amnesia not only antedating the brain disturbance but following it for a considerable time. Another case, in which there was no legal contest, occurred about the same time the Iliff case was on trial. A woman was out one evening watching the herd of horses of her husband. A colt broke away from the herd and ran against her and knocked her down. At the end of about forty-seven days, or at any rate a number of weeks, she began to regain consciousness and finally returned to a fairly normal condition. It was found then that she could remember absolutely nothing for a period of seventeen days before she was hurt and nothing for a period of thirty days after she was injured. Now, it would be very interesting if these cases reported by Dr. Allison were studied and carefully analyzed. I feel if my health would permit it, I would volunteer to give Dr. Allison my services to work up the three hundred cases he has narrated. If he had the time to make a minute and comprehensive study of them his reputation would be made for all time. It is very important to determine the last thing a person remembers before the injury and the first thing he remembers after the disturbance, and to find out whether anything is remembered during the state of disturbed consciousness. Not infrequently nothing is remembered, but if anything is remembered it is usually the most important occurrences. For instance, in homicide it is the report of the

gun or pistol or perhaps a quarrel. If these people pretend to remember some most trivial event and not the most important things, we can readily set them down as frauds. But if they remember only the things which would accuse them and forget the little trivial things, in nine times out of ten, probably in all cases, they are not feigners. I could narrate a number of cases that would substantiate these statements, but I have already said enough.

DR. TOMLINSON: The greatest difficulty in the way of the discussion of this subject, is the practical impossibility of agreeing upon a definition of what is constituted in consciousness. I remember trying, a few years ago, to construct a definition of consciousness myself, because the definitions with which I was familiar did not seem to me to be adequate. But I have not found that my definition was any more satisfactory to others than theirs were to me. The definition I made at the time and which I still believe to be a good one, was as follows: "Consciousness is the reception and correlation of the ever recurring new impressions." In other words we are only actively conscious of that which is new and different in our environment, while the resulting activities are but the synchronous expression of the sum of all impressions coming to the brain through the special senses and from general sensation. All general sensations and sensations from the viscera, not above or below the normal plane, practically do not appear actively in consciousness and neither do the impressions from the special senses which are weak or familiar become a part of consciousness actively, especially when certain conditions in the environment dominate attention. Nevertheless these impressions are carried to the brain and out of them grow the so-called automatic acts which are usually indefinite and often purposeless. We are all familiar with the influence of fatigue, illness, fright or anxiety upon attention and the confusion which results from these conditions is extreme. This was particularly well illustrated in Paris two years ago, in the conduct of the men in the burning building of the charity bazaar and could probably be illustrated from the personal experience of any of you. Now if the individual as the result of defective development is permanently in the same relation to his surroundings which the conditions which I have described may place us

temporarily, it is apparent why he commits acts of wanton or purposeless cruelty or discovers a tendency toward criminal conduct in general. That conduct which is natural and therefore instinctive, we share with the lower animals. Its object is the satisfaction of appetite, desire, and the preservation of life. We call anyone who follows the impulses arising from these tendencies unrestricted, a brute, and if he takes property or destroys life in the satisfaction of his desires, we call him a criminal. When a man is markedly defective mentally or becomes insane, he as a result fails to any longer appreciate his relations to those by whom he is surrounded, and is therefore constantly prompted to acts which although instinctive to him and warranted by the result he desires to attain, to us appear criminal. We have only to recollect that our standards of right and wrong are artificial and that acts are criminal only under given conditions, to appreciate the relation of the mental condition of the insane to their conduct and the limitations of their responsibility.

DR. RUSSELL: I have an interesting case to report in connection with Dr. Bancroft's paper. A young farmer, about thirty years of age, living with his mother and sister, took his gun down one morning to go on a hunt. His mother and sister took no notice of it. Instead of going out into the woods to hunt, he went to town, a distance of seven miles, and stationed himself at the corner of one of the principal streets and began to shoot at everybody in sight. I needn't tell you that he soon had possession of the town. He shot one man fatally and wounded several others, one of them the chief of police. He didn't know any of the people he shot at and he had no apparent motive for shooting at all. He simply stood there with the intention of aiming at everybody who came within shooting range. He was tried for murder and acquitted on the plea of irresponsibility. He is in the asylum now and is one of the most pleasant fellows we have in the asylum. He does not care very much about talking of the affair, still when you press him he says all he knows of it is that he remembers taking his gun down in the morning. He has no recollection of reaching the town or of shooting anybody. The first recollection he had of the event was when he woke up in the hospital, because he had to be overpowered with firearms, himself. He received a

heavy shot of lead in the abdominal region and had to submit to a serious operation for the removal of it. It was thought he was fatally shot, but he recovered. I do not know how to explain it except on the principle of subconsciousness or whatever you please to call it. I tried him a good many times, thinking possibly he was simulating and feeling that if he gave an honest account of the whole thing it might militate against his future discharge. I assured him on several occasions that he had been once tried, had been acquitted on the plea of insanity and under British law he could not be retried, and that whatever he might say would not affect his future in any way. He admitted all that, but still sticks to his story, that he has not any recollection of the crime at all. The question now is what to do with him. He shows no evidence of insanity in any way. We have trusted and tested him in many ways. I presume he will have to remain in the asylum the balance of his life as a protection to the public. These are very interesting cases and I am glad to know that we are giving them intelligent investigation. I trust the time will come when we will be able to understand them more thoroughly and be able to give a rational explanation of them.

DR. WOODSON: It is a difficult matter to impress upon courts or juries or laymen the fact that unconsciousness is a sufficient excuse for a person committing a crime under such circumstances. They claim that we do not know whether they were unconscious or not and that this lack of recollection or knowledge or consciousness of it is set up for the purpose of being acquitted. I have in mind a case in which there could be no motive. A very pleasant lady from the interior of this State was sent to Asylum No. 2 about ten years ago. She suffered from a pronounced type of melancholia; she had no delusions; she had no hallucinations that we were able to detect, though she was profoundly depressed. She took no interest in anything, unless it was needle-work, especially darning. She would repair almost any garment as well as any individual I ever saw. She helped some with the ward work and was always in the quiet ward. She ate well, was always ready to take the walks, and never took part in any amusement. After remaining in the institution about seven years, one of the officers of the county came for the purpose of making a re-

moval. This seemed to make a profound impression on her and she worried a great deal, saying she had no friends and would have to leave. It was the first I ever heard her say except in monosyllables. Later I found her depressed and crying. I asked the trouble and she said she had no friends. I told her I would be her friend. She said she was glad of it and asked if her brother was in the next building. I told her that he was not. She began to improve. She asked about her children. She had two children. I told her where they were and asked her to write to them. She called for pen and paper and started to write but could not make a letter. She said that she had no recollection of anything that occurred since she was in the institution. I had an attendant to work with her making a copy and within a day her power came back to her and she wrote a beautiful letter. There was no motive for her to declare that she was unconscious and she had committed no crime, and I think in connection with the class of cases referred to it is entitled to much weight.

DR. HARRINGTON: I have been very much interested in the two papers read this morning, particularly that of Dr. Allison, because it is along the same line as my own work. I was especially interested in the statistics which Dr. Allison gave and while I have none at hand, yet in a general way I think I can testify that the figures in Massachusetts would agree with his. I remember one of our figures which approaches very nearly Dr. Allison's. He states that twenty-four per cent. of life men in the State of New York are insane and confined in the asylum. In the State of Massachusetts of all the life men in the State, eighteen per cent. are at the present time insane and are confined in the State Asylum for Insane Criminals at Bridgewater. I am glad that this whole subject of the care of insane criminals has been brought up and discussed the last two years in the way it has and that this report and these appropriate recommendations have been made by the committee. I think it has been found in the State of Massachusetts, since the hospitals have been entirely relieved of the insane criminals (that has been the case for the past three or four years) that the hospitals have enjoyed a great deal of comfort from their removal. Insane criminals require a special sort of care, they have to be guarded by strong

locks and bars, an amount of restriction that must be to the disadvantage of the rest of the insane in the general hospitals. One of the conclusions of Dr. Allison's I think is a very strong one, namely, that in regard to the psychiatric service in the prisons. Among the cases that come to us from the prisons and houses of correction, we see a great many instances of men who come to us in a wretched physical condition; they are very anæmic oftentimes and they are found to have been suffering for a long time from constipation and they have pasty tongues and foul breath and have evidently been suffering from hallucinations, most of them for quite a long period of time. In the prisons about the only disposition that can be made of the insane man is the cellular treatment. Under proper care in the asylum there is usually a marked and rapid improvement, and no one can gainsay the importance of early care in such cases. With a better psychiatric service in the prisons and houses of correction, such cases would be recognized much sooner and if placed under immediate treatment, perhaps the result, as regards the regaining of mental integrity, might be much better.

I would like to say just a word in regard to Dr. Bancroft's paper. I think it is fortunate that these two important cases will be placed on record. The theoretical part of his paper has been so ably presented that I have nothing to add to that. But in the examination of cases where a homicide or crime has been committed in the subconscious or unconscious state one thought occurs to me. I think that physicians ought to use the utmost care that they do not make any suggestions to the patient during the course of their examination. I think it may not unnaturally occur that the physician, himself, having gone all over the ground and having gotten the occurrences just as they happened in his own mind, when he goes to see the patient he may suggest something to him, "Did you not do so-and-so?" or "Did not this happen?" and before we know it the patient may gather the idea that he did do *this* or *that* or that *this* or *that* did happen and he will become confused and perhaps finally it may get into his own mind that he does remember *this* or *that* and in this way the patient might injure his case legally. Therefore I think in the examination of these cases, where the patient was probably unconscious at the time of the act, we

ought to be especially cautious about imparting suggestions to the patients by our questions.

DR. ROBINSON: Owing to the lateness of the hour, I do not feel that I should say anything. At the same time I have been so much interested in the papers, of Dr. Bancroft and Dr. Allison, that I feel like adding my appreciation. It seems the members have been very much interested, as is shown by their comments. I feel like adding the history of one or two cases which have come under my observation, which seem to correspond with the case of Dr. Bancroft, in the subconscious state. The first case was a hotel-keeper, who was committed to Asylum No. 3 in Nevada for murdering two of his children. He had five or six children and he murdered the two younger ones, by splitting their heads open with a hatchet; the reason he gave for doing so was that he was somewhat involved in debt and he thought his whole family was going to become destitute and starve and under this state of melancholia he thought it was best to kill the two younger ones who couldn't provide for themselves. The others, being older, could probably provide for themselves. This was the only reason for killing the two younger ones. By the way, the others were old enough to run away. After being admitted to the hospital we found him to be in rather a despondent condition for some time. After a while he brightened up and his wife came to see him. After recovery he said that he had no recollection of killing the children. I asked him if he had any remorse of conscience for killing the children and he said he could remember nothing at all about killing them; he had every evidence from his wife and others that he had killed them, but could not realize it and on that account could not feel remorse over it. We kept him two or three years. It is the law in our State that when the superintendent recommends the discharge of a murderer as restored, if the majority of the board favor it, the patient is discharged. So on the request of the wife and friends and neighbors of this man we let him go and he has been a good citizen since. Another case I have in mind, that comes under the head of alcoholic mania. A man, who was a good citizen formerly but in the habit of drinking whiskey, went home to his family one day under the influence of whiskey. Although he had had no trouble before that, when he went into the house

he seemed to be enraged and took his rifle down. His wife ran out of one door and his children out of the other door. At one hundred and fifty yards he fired and his wife fell dead. He was adjudged insane and we kept him two or three years. After he came from under the influence of the whiskey, although he was sad, he claimed he had no recollection of committing the crime. The question came up whether he should be discharged, he promising to go to another country if we would let him go. There was no chance for him to get any better and he seemed to be all right. I thought in that case, perhaps, he should not have been adjudged insane but hung. These are some of the cases that come under the subconscious state. Another case reported reminded me of a case I had in private practice some years ago, that of a lady who had moved something like a month before into the neighborhood where I lived. She went along with her usual work and forming acquaintances with the ladies of the neighborhood who all seemed very much pleased with her socially. One morning, after preparing the dinner for her husband to take with him to his work, she handed him the bucket and as he started from the house he was startled to hear her fall forward out of the door; her head struck a rock and he picked her up in an unconscious state. I was called in the following night and found her in a convulsive state. Her husband did not think it was the time for confinement, and not knowing it was a case of that kind myself, as soon as she became somewhat quiet, I lay down to take a rest and await further developments. Soon after I was called out hurriedly and found the lady in labor. She was delivered of a healthy child and the convulsions ceased. I returned to see her the next day and found her doing well. Her husband had told me about the incident of falling to which I at first attributed the convulsions. She told me some neighbor women that morning came in and for the first time she realized that she was in a strange country and she did not remember anybody who called on her during the month she had lived there. The last thing she remembered was when they were preparing to move from her home in Indiana to Missouri; she was catching chickens to put them in a coop to take to market.

DR. BURE: How about the confinement, did she remember that?

DR. ROBINSON: No, sir; she had no recollection of the confinement and at first did not want to claim the child.

DR. EASTMAN: Some years ago I had under my care a patient who had been struck on the head with a sandbag. About thirteen years of his life had been knocked out of his memory. He did not know his wife nor his child. He did not know he had a wife or child. The last thing he remembered was an accident that occurred to him thirteen years before. He gradually regained recollection of his wife and child and of his business which he had also forgotten, but he was never able to do the work he had been accustomed to do before his injury.

DR. BRUSH: I think these cases are very much more common than the profession recognizes. They occur in surgical practice, in general practice, in the conditions of fever, and the army surgeons will tell you that they occur in conditions of fright. I remember seeing a man in the railroad riots who ran at least three miles. He said the last thing he remembered was some rioter kicked him and said, "Son, go home." I wish Dr. Chapin was here. He could relate two interesting cases, one of a judge who was thrown from a horse and remembered being thrown over the horse's head and then nothing. He asked the proprietor of the hotel the next morning who had brought him in and that was the first anyone there knew that anything unusual had happened or that he had had an accident. Another case was one of typhoid fever, who during his convalescence called his lawyer and made his will. Later he called his lawyer again and said he was going to make a will. His lawyer told him that he had made a will, but he had no recollection of it and made another will, the exact counterpart of the one he had made before.

DR. BANCROFT: I don't think it is best to take the time of the Association now it is so late other than merely to say that I believe that we must all admit that there are subconscious states, that this condition of disturbed consciousness or subconsciousness or whatever you wish to call it, is an actual pathological state and therefore merits serious consideration. It is in the medico-legal way that we as specialists are nearly always thrown in contact with these cases, because of the liability of crime being committed in this state. There is of course an embarrassment in considering this whole subject because we are deal-

ing with immaterial conditions and we are trying to reconcile them and make them fit in with actual material conditions of the nervous mechanism. It is as difficult apparently to define what mind or consciousness is and what its connection with the material nervous organism must be, as it is for us to define what the electric fluid is and what its connection is with the dynamo which generates it. We seem to be forced to the conclusion that there is such an immaterial existence but what the nature of its connection with the nervous mechanism may be may always be impossible to state. So our conclusions are embarrassed by the very nature of the case. But I think as specialists it is important for us to study these cases very thoroughly and, as far as we can, make an explanation of the underlying physiological state which must lead up to it.

DR. ALLISON: At this late hour I will not prolong the discussion but I wish to say one word in reply to what Dr. Hill states in relation to the method of procedure in Iowa of sending insane persons charged with crime to prison. I would not approve of such a practice, because a sentence to prison does not sufficiently protect the public in these criminal cases. I have found recently that the average length of residence of "court" cases in the hospitals of the State of New York exceeded the average length of terms for which convicts are sentenced to penal institutions, so that if the case is committed to an asylum, the asylum will protect the community better than the prison. I further believe it is better and more humane for them to be sent to a hospital for the insane, because there we have a staff of competent alienists to treat and to care for them.

In relation to amnesic acts committed by persons in a subconscious state, I think if these cases were thoroughly studied, many of them would be eliminated from the category of transient mental conditions, as in my experience, where there is an absolute lack of memory, there is usually a connection with some chronic form of insanity. Instances where crime has been committed in such states without the existence of mental disease are, in my judgment, extremely rare.

SOME REMARKS ON INSANITY FOLLOWING SURGICAL OPERATIONS WITH REPORT OF FORTY-SIX CASES.

By RICHARD DEWEY, M. D.,
Wauwatosa, Wis.

After meeting with insanity as a sequel of a surgical operation on several occasions and finding that although this is an extremely rare occurrence in comparison with the whole number of operations and still more rare in comparison with the whole number of insane, it is still sufficiently common and sufficiently grave to be worthy of attention. I have collected some information on the subject and desire to present the same in the form of a brief study of the cases I have observed and a tabulated statement. (*See pages 231, 232, and 233.*)

In my personal experience with five thousand or more cases of insanity, I have met eight cases where insanity followed an operation in a person previously of sound mind. In addition to this I have seen many cases in which the patient had been insane or highly neuropathic *before* the operation—sometimes without this fact being suspected by the surgeon. With these latter cases I do not now wish to deal but will here outline a series from both classes of cases showing how manifold all the influences tending to mental overthrow in connection with the previous mental and physical state of the patient—with the anæsthetic and the numerous and varied other concomitants.

This series of cases, some of which I described in a paper read in the meeting at Baltimore last year, includes examples of insanity occurring under the following combination of circumstances: Insanity in a neurasthenic patient developing from use of an anæsthetic without operation, also after trivial operations; of insanity from traumatic causes not directly affecting the brain both with and without operation; of change in the

form of mental disease after an operation; of apparent recovery from insanity after anæsthesia for uterine examination; of recrudescence of insanity after castration; of insanity probably from vascular disease, though excited by an operation; of insanity after perinæorrhaphy with sepsis, mental worry, neuropathic taint, diabetes and eczema, all operating together in a patient previously a victim of the morphine habit many years before; also a case of insanity after perinæorrhaphy in a healthy woman apparently from anæsthetic and deprivation of water. All these cases taken together serve to illustrate how complex a problem is insanity presenting itself after operations.

Some of the elements or factors of these cases may now be considered. One of the first occurring to the mind relates to the *kind of operation*. Experience has raised the question whether some classes of operation are not more likely than others to be followed by insanity, as operations on the genito-urinary organs or alimentary tract, first because these operations in some cases cannot be wholly aseptic, *e. g.*, operations for lacerations, urethral, vesical and rectal operations; second, some of these are operations depriving the economy of the essential organs, the ovaries and testicles, the loss of these latter being important from its influence on bodily nutrition and metabolism and likewise from the mental effect upon many men and women of deprivation of what to them seems an essential part of manhood or womanhood; third, the implication of the peritoneum with greater accompanying shock. Another class of operations in some cases liable to be followed by mental symptoms it would seem, are eye operations, especially cataract operations, perhaps from a closer proximity and relation of eye to brain as well as from the effect of atropine. Another operation in which tendency to mental disturbance manifests disproportionately is that from mammary disease, both malignant and non-malignant. In the forty-six cases of my table four were cases of carcinoma of the breast, females, and excepting operations of the generative organs no other form of operation was as frequent among the cases collected by me.

In reference to the other operations in my table, I would say of the forty-six cases twenty-nine were operations on the female genitalia, and of the forty-six cases only the additional six were located anywhere outside of the genito-urinary and alimentary

tracts. Only one of the forty-six, however, was an eye operation. I should remark here that not one of the forty-six was a brain operation, because the insanity or mental disturbance is almost invariably *antecedent* to the employment of brain surgery, and such cases are here excluded from consideration.

In regard to the development of insanity after ovariectomy, one may remark that a certain contingent of these cases consists of highly neurotic women naturally prone to insanity in whom any profound disturbance of nervous relations may produce it and it is a question often of accident as to whether insanity follows an operation or an operation follows insanity—undertaken as it often has been with the hope of cure. Such patients on one hand may be operated upon to relieve insanity, and, on the other hand, may be thought to have been made insane by operation while the most efficient factor is lost sight of in both instances, namely, the nervous instability of the subject.

A remark recently made by Dr. Paul Mundé at a meeting of the New York Society of the Woman's Hospital may here be quoted. Dr. Mundé said, "The results of oophorectomy in insane women have not been favorable."*

Where insanity follows an operation, the effect of the anæsthetic, chloroform, ether or cocaine, may be an important factor. The direct effect upon the brain, and that upon the kidneys where very prolonged anæsthesia is necessary the nausea and deprivation of water, all are capable of serious mischief to the nervous system and have been frequently adverted to. In five of the cases in my table the insanity was present immediately at the end of anæsthesia, though this does not prove the anæsthetic to have been the cause, and in eleven of my cases the anæsthetic was said to have been "well borne." It is to be regretted that the length of anæsthesia is only given in nine of the cases; in three it was one-half hour; in two, three-quarters hour; in one, one hour; in one, ninety minutes.

The question of the influence of *sex* in determining the development of insanity after an operation naturally presents itself in this connection. On first examining the question a striking preponderance of women over men is apparent. In the table I present of forty-six cases, only four are males,

*Amer. Gynec. and Obstet. Jour., Jan. 1898, p. 55.

though these cases are gathered from private practice and from institutions receiving both men and women, and only six of them came from a purely gynecological practice. Sears* of Boston found that of one hundred and sixty-seven cases, one hundred and two were women, but if strictly gynecological cases were excluded, there was little difference in the sex affected. He found on the other hand that in fifty-nine eye cases only twenty-four were women. Similar was the experience of Kiernan, of LeDentu, and of Simpson, from whom I quote the above figures. †

It would seem that the reason for a preponderance of these cases in women was simply the very large proportion of gynecological operations, and if the genital organs of men were as frequently operated on the number of such cases in each sex would, perhaps, be equal. Some indications of the day point to increased frequency of operations on men as well as a decrease in the frequency of operations on the female generative organs, and as a result we may see a change in the statistics of post operative insanity.

As to *septic and toxic causes*, it may suffice here to recall the fact adverted to above that in patients in a septic state from any cause previous to the operation or in operations on the perineum rectum, etc., which cannot be rendered wholly aseptic, there may be an autotoxis of brain producing insanity. Also in this category belong cases where toxic absorption from the dressings occurs.

In the series of forty-six cases herewith presented six were cases where iodoform dressing was used. In one of them only, however, as far as I know, did the iodoform appear to be an important factor. In this case of operation for mammary cancer, the dissections were very extensive and iodoform was lavishly used, and other causes for insanity seemed to be lacking except a nervous constitution.

The *mental condition* previous to the time of operation is a thing scarcely taken into account by surgeons in determining upon an operation, and I suppose all who have had much experience with insanity have seen cases in which it really existed

*Boston Med. and Sur. Jour., '98, p. 642

†Journal Mental Science, Jan. '97.

before the operation, either in actuality or full potentiality without being recognized, like the patient mentioned who had delusions actively developed before the attempt at curettage and went wildly insane with the first whiffs of the anesthetic.

The state of anxiety and nervous apprehension very generally felt by the patient with reference to both the disease existing and the operation for its cure is exceedingly important, and combined with the *shock* of the operation itself is in some cases sufficient to cause insanity, and we see of late evidence of this fact being recognized and efforts are made on the part of the surgeon much more than formerly to induce a state of confidence and tranquility of mind as well as to minimize the tendency to shock by fortifying the patient in every way physically and mentally. In this connection there can be no doubt of the value of "suggestive therapeutics" at the time of an operation. This subject has been well discussed by Moyer in a paper on "The Nervous and Mental Phenomena Following Operations" in "Medicine" for June '97.

It is not possible in the limits of this paper to discuss the very great number of factors tending toward development of morbid mental states after operations, but they are chiefly comprehended in the following list:

FIRST.—Those relating to the prior conditions remote and immediate.

Remotely.—Age and sex, the heredity, constitutional tendencies, habits, previous attacks of mental and nervous disease.

Immediately.—Physical condition at time of operation, embracing any serious disease, and the organic and functional condition of heart, lungs, kidneys, and brain; also anæmia, cachexia, sepsis from any source.

SECOND.—The conditions during and immediately after the operation; the anæsthetic and all details of its administration and after effects; the extent, nature, and duration of the operation itself; nausea, hemorrhage, shock.

THIRD.—Later in order come the process of healing; absorption of septic material or toxic effect of dressings; the effect, bodily or mental, of essential organs being removed.

All the above are physical factors but one or more of them by depressing effect upon the brain, if this organ is unstable,

may produce insanity; and usually several are associated in any given case.

Finally in addition to physical causes, and of even greater effect in evil result, and in fact *essential* to this result, are the *mental and moral causes*; an inherently unstable mental condition coupled with fear, anxiety, and apprehension, or an incipient delusional state. It will be seen by the above that the operation may be only one of a very great number of influences which precede it or follow in its train and it is sometimes only an incident in the development of insanity.

It is perhaps impossible to form any definite idea of the *frequency* with which insanity follows operations. Dr. J. Christian Simpson in examining such data as he had obtained found enormous variations and such is the general experience. Simpson learned that Homans in one thousand laparotomies had two cases of insanity; Werth had two in two hundred and twenty-eight abdominal operations; Schnabel had twelve cases in one hundred and eighty-six eye operations, while at the Massachusetts Eye and Ear Infirmary four cases occurred in one hundred and twenty-eight operations. In the laparotomies above mentioned the variation is between .02 and .002 and in the eye operations between .03 and .06. In five thousand five hundred cases studied by Simpson in the records of the Edinburgh Royal Infirmary there were found ten cases of insanity apparently "entirely due to the operation," a ratio of less than two per one thousand.

So far as figures obtained give any indication it may be said that the proportion of cases to total of operations is probably less than two per one thousand.

Turning now to the other question as to how often cases of insanity follow upon a surgical operation as their exciting cause or at least as an incident closely preceding the operation we encounter the same variation.

An inquiry which I made of the institutions for the insane in the United States and Canada showed that in twenty public institutions, with a population of not less than 8,000 insane, no case of insanity caused by an operation was under observation or could be recalled by the medical officer in charge.

Again the reports from twelve institutions with a population of not less than eight thousand insane persons of both sexes

yielded sixteen cases in which insanity had followed more or less closely upon an operation.

This would indicate that the ratio of cases of insanity after operation going to public institutions was *less than* one per one thousand. It must be remembered, however, that only a very small fraction of these cases go to any institution for the insane. Of the forty-six I have collected, only twenty-one had been in an institution for the insane, and a large number being affected only for a few days or weeks, were cared for in a general hospital or at home.

There are certain sources of fallacy or misapprehension in studying these cases which my experience has shown me need to be eliminated; for instance, I found some of those with whom I communicated in treating of insanity "following" an operation, meant insanity caused by an operation, while others would take the question as it was intended, namely, not a question whether insanity has been caused by an operation but simply whether it had developed *in order of time*, after an operation, without reference to the other and very different question, how far the operation stood in a causative relation to the insanity.

Another source of error relates to the definition of insanity, for a great deal will depend on what is understood by the term insanity. It is known that insanity is a condition extremely difficult to define technically, and not only that, but also there is a very great lack of practical experience with insanity on the part of the vast majority of the members of our profession, because until a very recent date nothing was taught of insanity in our medical schools and most practitioners to-day have no familiarity with this disease, and "brain fever," "meningitis," "delirium," "nervous prostration," and even "typhoid condition" are names used to describe what in reality is insanity. I may here refer to a discussion in the New York Woman's Hospital Society published in the American Gynecological and Obstetrical Journal for January 1898, in which Dr. Paul Mundé, Dr. Gill Wylie and Dr. Harrison all exemplify the lack of study and trained observation of mental maladies which is nearly universal though being rapidly remedied to-day by the better medical schools. Dr. Wylie, indeed, states that he has no knowledge of mental cases but invariably calls in an alienist or neurologist to advise.

When A, a surgeon of large practice, writes you he has never had a case of insanity following an operation, and on the same day one of his former patients tells you A recently described to him a case of insanity with delirium existing for weeks after an operation, you begin to think that A needs a course of instruction in psychiatry or candor.

It is evident cases are not studied by surgeons as an alienist would study them, and until they are, we shall lack for full understanding of them. Furthermore, men are sensitive as to the possibility of being misunderstood in reporting such cases. There are large numbers of men in practice who would not recognize as insanity conditions of delirious mania or a brief maniacal attack with delusions or violent conduct; and confusional, hysterical and hypochondriacal cases would only be considered "eccentric."

The most important light gained in this study has been as to the desirability of mutual appreciation and understanding on the part of both alienist and surgeon.

I wish to close by laying stress upon one therapeutic indication to be drawn from what has been learned in study of insanity as found after operations, and that is, the advantage to be gained from careful attention on the part of the surgeon to the nervous and mental state of his patient, and to conditions that may possibly cause the development of insanity. It is true these cases of insanity developing after an operation are few and far between. And it is also true that the operation can only in a remote degree serve as a cause of the insanity; but, nevertheless, the occurrence of these cases in the practice of the surgeon is an event most undesirable both for patient and surgeon, and surgeons have in the past too frequently learned when too late how important it is to forestall these deplorable accidents, by investigating the nervous history of the case, and arriving at a careful estimate of the contraindications, or precautions if any, called for by the case. This in some cases the surgeon can do for himself; in others, either from his own unfamiliarity with neuroses and psychoses or from the inherent difficulties of the case, he needs the cooperation of one versed in nervous and mental disorders.

If my paper makes it plain that this is a subject of importance generally too little understood and requiring further attention, it will have accomplished its object.

No.	Sex	Habits.	Prior Condition.	Operation.	Dressing Used.	Duration of Anæsthetic, and How Borne.	Healing Process.	How Soon Insane.	Form of Mental Disease.	Duration of Insanity.	Outcome of Insanity.	Heredity.
1	F	32	Good	Curcettum; perineorrhaphy; external piles	Antiseptic	Ether well borne	Primary union	One week	Acute mania	2 months.	Recovery.	.....
2	F	36	Correct	Removing carcinoma of breast	Iodoform.	Chloroform; well borne	4 wks., patient interfered with wound	On recovery from anæsthetic	Depression, peculiar ways	6 months.	Recovery.	.....
3	F	49	Sedentary	31 operation carcinoma breast	Iodoform.	Chloroform; well borne	None	24 hours	Acute mania	1 week	Death	.....
4	F	.....	.....	Removal of uterus and appendages	.....	.....	.....	5 weeks	Delusional	11 months	Recovery.	.....
5	F	30	.....	Vaginal ophorhomy	.....	.....	.....	Soon after	Mania	Shorttime	Died	.....
6	F	52	Irascible temper	Arm amputated	.....	.....	.....	One week	Confusional	6 months.	Died	Negative.
7	F	36	Good	No sign of insanity	.....	.....	.....	Soon after	Mania	4 months.	Recovery.	do
8	M	65	Good, hard worker	23 teeth extracted	.....	Cocaine	.....	Soon after	Confusional	6 months.	Chronic	do
9	F	58	Correct	Perineorrhaphy	.....	.....	.....	6 weeks	Delirious mania	3 months.	Recovery.	.....
10	F	41	Correct	Perineorrhaphy	.....	.....	.....	.....	Confusional	1 month.	Recovery.	.....
11	F	35	Lived underecited in conditions	Curettage and Alexander's operation	.....	.....	.....	3 days	Acute delirious mania	1 month.	Recovery.	.....
12	F	57	Correct	Carcinoma mammary gland	Iodoform.	.....	First intention	3 days	do	4 weeks	Recovery.	.....
13	F	36	No insanity in family	Pelvic abscess; laparotomy	.....	.....	.....	Directly	.....	2 years	Recovery.	.....
14	F	38	.....	Removal of uterine fibroid	.....	.....	.....	3 weeks	Melanchoia	3 months.	Recovery.	Sister in same
15	F	26	Neurasthenic.	Resection tubercular shoulder	Iodoform.	.....	Primary union	2 weeks	.....	4 months.	Recovery.	.....
16	F	33	Neurotic	Pelvic inflammation; retrov. ventrifix	.....	.....	.....	Immediate waking on anæsthetic	.....	4 months.	Recovery.	.....

Case No.	Habits.	Prior Condition.	Operation.	Dressing Used.	Duration of Anæsthetic and How Borne.	Healing Process.	How Soon Insane.	Form of Mental Disease.	Duration of Insanity.	Outcome of Insanity.	Heredity.
17 F 38	.....	Tubercular abscess left ovary and tube; neurotic	.....	.....	.....	.....	Some wks	.....	Till death	Death	.....
18 F 46	.....	Appendices left side congenitally absent; abd. and thor. viscera normal	Removal of tube and ovary	Aseptic	Ether; $\frac{1}{2}$ hr.; well borne	.....	Several weeks	.....	Few mos.	Recovery.	Unknown
19 F 45	.....	.....	Perineorrhaphy & trachelorrhaphy	None	Ether; $\frac{1}{2}$ hr.; well borne	.....	Immediately	.....	Few mos.	Recovery.	Unknown
20 F 31	.....	.....	Double ovariectomy	.....	.....	.....	2 weeks	Suicidal mania	1 $\frac{1}{4}$ years	Apr. '97 still insane	Negative.
21 F 37	.....	Operation sarcoma breast 3 years before	Removal uterus and appendages for fibroids	.....	.....	Good	6 weeks	.....	7 or 8 mos.	Recovery.	.....
22 F 45	.....	Nervous	2d operation tumor of tongue	.....	.....	.....	Suddenly	Stuporous	1 year	Still insane	.....
23 F 38	Good	Nervous and hysterical	Perineorrhaphy	Antiseptic	Ether; $\frac{1}{2}$ hr.; well borne	Poor	1 hour	Acute mania	3 months	Recovered	Several relatives nerv.; 1 brother insane
24 F 30	Gond	Hysterical and depressed	Removal sarcoma of ovary	Antiseptic	Ether, unknown how borne	Slow	3 or 4 wks.	Melancholical & homicidal	4 months	Recovery.	.....
25 F 33	Good	Nervous	Removal 2 ovaries and tubes	Antiseptic	Very well	Rather slow	4 days	Confusional	(1 $\frac{1}{2}$ years) 17 months	Recovery.	Father intemperate
26 F 38	Good	.....	For abdominal hernia	Sublimat	Chloroform; $\frac{1}{2}$ hr. well borne	Perfect	Immediately	Suicidal mania	4 days	Death	.....
27 F 21	Good	Good physical condition	Alexander's	.....	Ether	Uneventful	6 days	Acute melan.	5 months	Recovery.	None
28 M 49	Hard student	Depressed mentally; iron down nephrolith	Nephrolithotomy	Stick y iodoform gauze	Ether; 90 min. well borne	Perfect	24 hours	Excited delirium	4 days	Death	.....
29 F 35	Good	Appendicitis	Operation for appendicitis	.....	.....	.....	1 week	Subacute mania	4 months	Recovery.	Unknown
30 F 34	Good	Healthy	Removal of appendages	Iodoform gauze	A C E mix 90-15 min. well borne	Normal	?	Subacute melan.	3 months	Recovery.	.....

31 F 40		Ovariectomy.		Either	Quick	4 or 5 wk. Menia with confusion tendency to suicide		Much improved
32 F 37	Temperate	Unknown	Operation for ischio-rectal abscess			Few days	7 months.	Recovery.
33 F 32			Laceration cervix and perineum			2 weeks.	Unknown	Still in asylum
34 F 43			Mammary cancer			Very soon	5 years	Died insane
35 M 47	Good		Gangrenous appendicitis	Chloroform 1 hr well borne	Normal	24 hours	24 hours suicide	Died insane
36 F 23	Intemperate and vicious		Double ovariectomy			11 months	10 months	Recovery.
37 F 39	Good		Oophorectomy; two tubes and parovarian cyst removed	Ether?	Excellent satisfaction	10 days	6 weeks	Recovery.
38 F 32	Good		Hysterectomy	Ether?	Excellent satisfaction	1 week	2 months	Recovery.
39 F 32			Laparotomy			Not known	8 years	Still insane
40 F 65			Operation for catarrh			Several weeks	7 years	Died insane
41 F 41	Temperate	Poor health 2 years	Removal uterus & ovaries			2 weeks	7 months	Recovery.
42 F 5	Regular	Anemia from hemorrhages	Vaginal hysterectomy	Chloroform 4 min well borne	Rapid	Several days	1 week	Recovery.
43 M 51	Temperate	Good	Operation for hemorrhoids		Normal	About yr. gradual	Still insane	Improved
44 M 56	Temperate	Good	Operation for ulcer of rectum			About a month	Not given	Recovery.
45 F 44	Temperate	Mental depression	Ovariectomy and hysterectomy			Few wks.	10 mos. still insane	Still in Mother's
46 F 37	Unknown	Nephrorrhaphy, prior attack neurotic	Nephrotomy	Chloroform 1 hr. & aseptic gauze	Normal	10 days after operation	2 years	Improved

31 F 40

32 F 37
Temperate

Unknown

Operation for ischio-rectal abscess

Few days

7 months.

Recovery.

33 F 32

Laceration cervix and perineum

2 weeks.

Unknown

Still in asylum

Brother insane

34 F 43

Always pale and delicate

Mammary cancer

Very soon

5 years

Died insane

9th cousin insane

35 M 47

Good

Gangrenous appendicitis

Chloroform 1 hr well borne

Normal

24 hours

24 hours suicide

Died insane

None

36 F 23

Intemperate and vicious

Double ovariectomy

11 months

10 months

Recovery.

37 F 39

Good

Oophorectomy; two tubes and parovarian cyst removed

Ether?

Excellent satisfaction

10 days

6 weeks

Recovery.

No heredity

38 F 32

Good

Hysterectomy

Ether?

Excellent satisfaction

1 week

2 months

Recovery.

No heredity

39 F 32

Laparotomy

Not known

8 years

Still insane

40 F 65

Operation for catarrh

Several weeks

7 years

Died insane

41 F 41

Temperate

Poor health 2 years

2 weeks

7 months

Recovery.

No insane heredity, phthisis, bro. & son.

42 F 5

Regular

Vaginal hysterectomy

Sterile

Rapid

Several days

1 week

Recovery.

No heredity

43 M 51

Temperate

Operation for hemorrhoids

Normal

About yr. gradual

Still insane

Improved

No heredity

44 M 56

Temperate

Operation for ulcer of rectum

About a month

Not given

Recovery.

No heredity

45 F 44

Temperate

Ovariectomy and hysterectomy

Few wks.

10 mos. still insane

Still in Mother's

insane

46 F 37

Unknown

Nephrorrhaphy, prior attack neurotic

Normal

10 days after operation

2 years

Improved

Unknown

DISCUSSION.

DR. HURD: It seems from my experience rather desirable that our surgical brethren should give more attention to their patients prior to the operation. I believe that in many instances a surgical operation is done by the surgeon or gynecologist with the idea of relieving a condition which the trained alienist would at once perceive to be one of actual mental disease. I have known instances where operations have been reported as causing insanity when there was a pre-existing insanity which had not been recognized by the surgeon. In large hospitals the mental condition is apt to be overlooked and the whole attention of the surgeon is concentrated on the surgical trouble. Before we can get accurate data as to the agency of surgical operations in the production of insanity, we should have a careful analysis of each case so that we may eliminate any wherein an unsound mental condition existed before the operation. If this could be done the number of cases of insanity following operations would be largely reduced. I have sometimes hazarded the statement that if we could eliminate original cases of insanity and cases where insanity could be traced to a toxic agent like atropin or iodoform or some other agent which is directly toxic, and cases due to infection (for I am sure in many cases we do get delirium and mental derangement from infection), the number of cases of insanity following operation would be very small.

DR. TOMLINSON: It seems to me the point brought out by Dr. Dewey's paper and the one which I thought he wished to emphasize were the conditions most likely to be produced by surgical operations. In my experience the surgeons do not consider this subject at all. In fact, they are only interested in the operation and in the immediate physical results following the operation and if any reference is made to the nervous condition of the patient it is either scoffed at or belittled, because they do not wish to consider anything which suggests a reason, not surgical, why an operation should not be performed. I have found not only a great apathy on their part but a disinclination to consider nervous conditions in the patient which would render liable nervous disturbance, either following the operation or from the anæsthetic, sepsis, or from shock. I think myself that in the ephemeral mental disturbance following operations, the anæsthetic has perhaps as much to do with it as

any other one thing. Next to that is the interference with elimination by involvement of the kidneys. Although the number of opportunities I have had to study these things has been limited, I have almost invariably found there has been some renal inadequacy, either as the result of some physical condition beforehand, from the shock, or the anæsthetic. While the urine is examined for the presence of albumen and casts as a possible contraindication to operation, the other constituents of the urine, which indicate more or less incompleteness in the retrograde changes, are not considered. The patient, while suffering from an autointoxication which may be a part of the diseased condition requiring operation, has had added to that a further intoxication by interference with the retrograde changes in the organism and elimination, due primarily to the previous condition but added to by the anæsthetic and this may be the immediate cause of the outbreak. It seems to me if anything is going to be done towards a further consideration of this subject, it should be along the line of a more careful study of the conditions which have been followed by mental disturbance after operation and a careful exploration of the patient generally, and especially an examination of the excretions so as to know just what the disturbance of nutrition or the interference with the eliminative functions of the body is, which is incidental to the mental and physical disturbance.

DR. BANCROFT: Dr. Dewey, I think, has brought out very clearly in his paper and in the chart which he has sent around, the idea that the "unstable brain," whatever that may mean,—I think it is a term we all understand the meaning of even if we cannot exactly define it,—is a predisposing cause of insanity, and the anæsthetic, the shock of the operation, the mental stress of the operation is the exciting cause. But it has occurred to me in hearing the discussion and listening to the paper, that even under the conditions that often occur when serious operations are necessary, we as alienists would not counsel the surgeon against an operation because insanity may be a possible result. A carcinoma in any form I should think would be a diseased condition in which we would counsel an operation for the benefit of the patient, and, as insanity follows so seldom, it is a risk we would be willing to take. So, though we should study these cases and advise the patients and the relatives that

possibly under these conditions insanity might occur, still we would not counsel against operation on account of that possibility. It is one of the many results that may follow any serious operation.

DR. RUSSELL: I would add to Dr. Dewey's forty-six cases my testimony of a case that has come under my observation lately. A relative of an officer in the institution to which I belong was suffering from a uterine fibroma. An experienced surgeon in the city was invited to perform the operation. He successfully removed the fibroma from the uterus. Within a week from the date of the operation the patient became violently insane. She was treated at home for several weeks until it was found that home treatment was unavailing and she was then admitted to one of the asylums and has been a resident there now for something over six months and I regret to say is not giving any promise of recovery.

DR. BANNISTER: Of the very small percentage of insanity following surgical operations, some part it seems to me ought to be credited to idiosyncrasy of the individual toward the anæsthetic. Aside from operations on the genitals, the influence of which is generally admitted, this will probably or at least possibly account for most of the cases, and often no amount of foresight or observation can prevent them. I know of one case, perhaps in point, where a person cannot take nitrous oxide gas without its causing marked depression for hours after. In the table that is passed around I notice some things that may be significant. As regards chloroform, for example, which Waller has recently stated to be five times as powerful a poison as ether, the margin of safety in using it is necessarily much reduced, and we would naturally look for more possibilities of serious consequences. Possibly this may account for some of the predominance of eye operations in causing mental trouble. The more powerful a neurotic poison, the greater danger of mental disturbance from its use. I believe we should consider the effects of these two elements in the question of post-operative psychoses, the individual idiosyncrasy and the anæsthetic.

DR. PUNTON: I think we should be very careful as to the consensus of opinion in this Society in regard to this matter, because I do not think there is anything in surgery at the present time so unsettled as the question before us this morning,

and I think whatever stand we take will have a very great influence in licensing general surgeons in operating upon supposed cases of insanity. My experience has been that a great many cases are operated upon for supposed mental trouble with the idea that it can be relieved by operation, but my experience is that it is usually intensified by the operation. I have in my mind four cases that have occurred in the last few years, in which the condition was greatly intensified by the operation. I think we should be very careful in formulating any opinion. In all these four cases there existed prior to the operation a neurasthenia, and I am inclined to think that in the majority of these cases, as Dr. Hurd says, there is some pre-existing nervous disease that would be recognized by an alienist or neurologist, that is overlooked by the general surgeon, and a great deal of operating is allowed that would not be allowed if someone were to see the case who is prepared to recognize such nervous disturbances.

DR. WOODSON: I have expressed myself so frequently upon the subject of surgery and insanity that I hesitate to take part in this discussion. A patient in our institution underwent a trivial operation and she came out of the anæsthesia in a typical mania. There was no hereditary tendency in that case. A few years ago we had a patient admitted to the institution who had consulted a dentist to have some teeth extracted and considerable cocaine was injected around the gums. She became insane, but in that case there was a strong neurotic element. I believe where it is necessary to operate it should be done and because we have a case of insanity following surgical interference or operations, these are no more to be condemned than railroads or vehicles of any sort because we have an occasional accident following their use. But I believe the consensus of opinion is in favor of chloroform as an anæsthetic in preference to ether, especially as regards kidney lesions.

DR. DEWEY: Two lessons, it seems to me, may be drawn from what we know of these things; one, that greater attention on the part of the surgeon to mental and nervous conditions of the patient is desirable, and the second, the need of improvement in the instruction given in insanity in the school to such an extent that a knowledge of the elementary matters at least relating to mental disease will be common. Certainly there is

no reason for indiscriminate opposition to the employment of operations in insane or nervous persons. I believe the principles determining operations should be the same, barring some special peculiarities due to insanity. As a rule it may be said that if the individual, sane or insane, needs an operation, and there is a reasonable prospect of benefit from an operation, it should be undertaken. But in nervous patients or patients with insane heredity, let very great care and attention be given to the precautions that may aid in warding off insanity.

ASYLUM VERSUS HOSPITAL.

By JAMES RUSSELL, M. D.,

Medical Superintendent, Asylum for the Insane, Hamilton, Ont.

As we ring out the closing years of the nineteenth century, laden with accumulated treasures of knowledge and experience, in every department of human activity, we naturally become retrospective of the past, and prophetic of the future.

This vast inheritance bequeathed entails upon us the tremendous responsibility of passing it on to posterity, not only unimpaired in value, but magnified and enriched by our own contributions, as faithful stewards of our day and generation.

As the vanishing shadows of the old century lengthen into oblivion, already we see in the distance the glimmering dawn of a new century, heavily freighted with stupendous opportunities and possibilities for the future. The century now drawing to a close has given such a gigantic impetus to every branch of scientific, commercial, and industrial thought, that we stand appalled and confounded at the very richness and magnificence of our heritage. Two great forces have been in operation; the one destructive of the old, and the other constructive of the new. Step by step in rapid succession old theories, customs, and superstitions, the offspring of ages of ignorance and credulity, lie prostrate in the grave, in the presence of the electric blaze of scientific inquiry and demonstrated truth. No branch of human research has been crowned with richer results, or rewarded with greater advance, than in the departments of medical, surgical, and mental science.

The purpose of this paper is to take a rapid review, historically, of the evolution of the Asylum and its sister charity the Hospital, to point out the uses and abuses of each in the past, the distinctive function of each at the present, the lessons to be drawn from past experience, and the lines upon which we shall proceed in the future.

The early history of the asylum is meagre and involved in much obscurity. We have sufficient knowledge of its history, however, to show that its early function was entirely different from its present use. The etymology of the word coming from both Latin and Greek sources signifies that it was a sanctuary or place of shelter, an institution of the church where criminals and debtors sought shelter from justice and from which they could not be taken without sacrilege. The ancient Grecian temples had this right, and the custom, following Jewish analogy, passed into the Christian church. From the time of Constantine downwards, certain churches in many Catholic countries were set apart as asylums for the protection of fugitives from the hands of justice. In England, down to the reformation, any person taking refuge in such a sanctuary was secured against punishment (except when charged with treason or sacrilege) if within the space of forty days he gave signs of repentance and subjected himself to banishment. By the Act 21, James I, Cap. XXVIII, the privilege of sanctuary for crime was finally abolished. Various sanctuaries for debtors, however, continued to exist in and about London till 1697 when they too were abolished. In Scotland the abbey of Holyrood House and its precincts still retain the privilege of giving asylum to debtors and one who retires thither is protected for twenty-four hours, but to enjoy protection longer the person must sign his name in the books kept by the Bailie of the abbey; since the abolition of imprisonment for debt this sanctuary is no longer used.

The right of asylum is still used as a term in international law, whereby persons committing certain crimes in one country may take refuge in another.

During all this time, while the church and the state provided the right of asylum for criminals and debtors, no special provision was made for the care and treatment of the insane. They were confined in gaols, penitentiaries, hospitals, and workhouses, and generally in filthy and wretched apartments. The only idea of treatment was that of forcible restraint, tied with chains to the wall and caged behind iron bars, with only a litter of straw to sleep on like wild beasts; they were lashed with the whip into submission and confined in cold and damp

apartments; they soon pined away and died and over the lintel of each door might be written the words:

"Abandon hope all ye who enter here."

It was not until the middle of the last century that the first institution was erected at St. Luke's in London whose avowed purpose was the cure of insanity. This was followed by the erection of the York Retreat by Tuke in 1792, who was the pioneer in introducing the treatment by non-restraint; contemporaneous with Tuke, Pinel in Paris was braving public opinion in removing the chains and fetters from the insane at the Bicetre in 1791 and at the Saltpetriere in 1794. In America Rush and others had imbibed the spirit of reform and the good work went on, so that we might say the dawn of the present century witnessed the first attempt to treat the insane on rational and humane principles.

The early history of the hospital is quite as meagre and obscure as that of the asylum. The word hospital comes to us from the Latin words *hospes* and *hospitalis*, of or relating to a host or guest; from the medieval Latin we get *hospitale*, a large house or palace, an inn; the same word contracted appears in old English as *hostel*, and modern English as *hostelry* and *hotel*. In ancient Greece the sanctuaries of *Æsculapius* included establishments akin to medieval and modern hospitals. A Roman lady named *Fabriola*, in the fourth century, founded at Rome, as an act of penance, the first public hospital, and the charity planted by that woman overspread the earth.

At the beginning of the present century both asylum and hospital stood on about the same plane in regard to public favor, and both were utterly shunned and detested, except in cases of great emergency, and then used only by the indigent and friendless. The asylum was a madhouse, indeed; the inmates were treated like wild animals, and were simply held in custody as a protection to the public. The hospital was also a synonym for the most barbarous treatment, and the public regarded it not as a place for curing disease but a place for experimentation by the doctors, and admission to one was regarded as a prelude to sure and certain death. The laws of sanitation, anæsthesia, and antiseptics were still unknown, and the nursing was of the rudest and crudest character. The process of evolution from

this condition to the present is simply marvelous, and is entirely due to the splendid achievements of medical and surgical science. The popular prejudice against hospitals except in isolated cases has entirely broken down, and people of all ranks and classes when afflicted with bodily disease now feel that the hospital furnishes not only the best medical and surgical skill but the best nursing and equipment for the amelioration of their condition and hope of recovery.

I now propose to draw a parallel between the asylum and hospital of to-day, to see how we compare in scientific attainment and in popular estimation. I fear there still lingers a prejudice against the asylum which we have not quite overcome, but which the hospital is now almost entirely free from. When we consider the tremendous legacy of prejudice which we have to contend against this is not to be wondered at. It is still a mark of social disgrace to have been in an asylum, and even when recovery takes place, the person has to suffer from popular prejudice which severely handicaps him or her in the race of life. The friends recognizing the force of this resort to all sorts of secret devices to hide the unfortunates away in some distant asylum if they can afford it, and all sorts of trumped up stories are invented to account for their absence. Novelists still cater to the public craving for sensationalism by rehearsing demoniacal scenes of a by-gone age in asylums. The public journals still teem with sensational reports of alleged cruelties, which are either untrue or greatly exaggerated.

The work in an asylum is so essentially different from the hospital that we are necessarily more subject to public criticism. The conditions attending the healing of the mind are wholly different from the healing of the body. In the asylum we have to deal with irresponsible beings in all stages of mental alienation. The very discipline which we enforce, no matter how salutary and curative in results, is often mistaken for cruelty, and, with that shrewdness and cunning peculiar to the insane, they are not slow to tell horrible tales of neglect and cruelty, which credulous and over-indulgent friends are too apt to believe. Happily this condition of things is rapidly passing away and the heavy demands made by the public for asylum accommodation is the best evidence of its growing popularity. The asylum of to-day is not only an expression of the accumu-

lated wisdom of the past, but an exemplification of the highest scientific attainment in mental science at the present. It also typifies in a remarkable degree the rapid evolution of thought, which spans a century of time, and stands a monument of the wisdom, generosity, and beneficence of our advanced Christian civilization.

In recent years a movement has arisen in a section of America to eliminate the word asylum from the vocabulary of our specialty and substitute for it the word hospital. We are told that the word asylum may have properly symbolized the function of those institutions in the past when ignorance, superstition, and cruelty held sway, but under modern scientific methods the word asylum is a misnomer and should be discarded.

It is held that an opprobrium attaches to the word as typifying the inhuman and unscientific treatment of an ignorant and barbarous age. It is said the old treatment by mechanical restraint, whereby refractory lunatics were chained, strapped, jacketted, and muffed by day, and confined in cribbed beds by night, has been consigned to the limbo of the past and that the modern hospital idea is now the dominant principle of treatment.

I yield to no one in my desire to adopt the most advanced methods in the treatment of the insane, but I hesitate at confessing inferiority, and of becoming an apostate, as a means to the accomplishment of the end. Is it necessary to renounce our ancestral name even with all its original and actual sin, but now hallowed and enriched by the light of modern science, and accept baptismal regeneration and adoption into an alien family of whose rich domain we are not the lawful inheritors?

If the torchlight of science has burned with greater brilliancy within the hospital than within the asylum, whose fault is it? Is it not a confession of weakness to commit an act of grand larceny by assuming a name which we have not earned and thus take a short cut to popular favor? There is nothing to be gained by masquerading in borrowed plumage unless we can prove that we belong to the same species and have the same family instincts and habits and are designed to do exactly the same kind of work. I take no stock in that scientific sentimentalism which seeks to popularize itself with a name; words are

but symbols of ideas, and unless a name has behind it the merit of good works to commend it to popular favor it will be but a tinkling cymbal and term of reproach.

Why should we proclaim the hospital to be the apotheosis of all the scientific virtues and brand the asylum with the trademark of inferiority? Why should we pay such court and deference to a sister institution and confess our weakness and inability to compete with it in the race for popular favor? Why should we humble ourselves in the dust and admit that we have not sufficient individuality and inherent strength of purpose to rise above the popular prejudices which surround a name? Is it not rather our duty to proclaim to the world (as we are doing) by our deeds that the cruelties and barbarities of a less enlightened age are long ago abolished and that purged and purified we stand forth as the embodiment of the richest and noblest experience of Christian teaching and modern scientific thought? As specialists in mental science our work is clear; we have accomplished great things in the past, but there is still work for us to do. Let us address ourselves to it in a spirit of self-confidence, that we shall not relax our efforts, but press on from one vantage ground to another until the beauty and excellence of our work shall have so permeated the masses that old prejudices shall melt away under the noonday sun of enlightened scientific methods and the sweetening influence of Christian benevolence and charity.

In the published transactions of this Association last year, I note that ninety-three hospitals for the insane are reported, and forty-eight asylums for the insane, thus showing that more than one-third of the institutions affiliated with this Association are still unleavened with the new designation.

Throughout other parts of the world where similar institutions exist, I know of no movement having for its object a change of designation from the ancient landmark of asylum to that of hospital. It is unfortunate that there should be want of uniformity in designation, as it must inevitably lead to more or less confusion and embarrassment, both in speaking and writing, in regard to these institutions.

I propose now to show that the word hospital, in its modern application, is a misnomer when applied to an institution for the insane, and that the future evolution of the asylum must be

on educational and industrial lines instead of hospital methods. How to lessen the ever increasing residue of chronic insane, which flows in upon us like a mountain torrent, is the great problem which confronts us to-day. With all our boasted scientific attainments and hospital methods we stand helpless in the presence of this colossal army of mental cripples who have failed to adjust themselves to the environment of ordinary citizenship, and, unable to provide for themselves, they become outcasts from society and are brought to us seeking the right of asylum. What do we do for them? We simply feed and clothe them and provide as many of the comforts of life as the generosity of our respective legislatures will permit, and thus they drag out their weary, hopeless years until the great Reaper arrives to call them hence.

To further prove that the hospital idea is not the dominant principle of treating the insane, I submit a census and classification of the Hamilton Asylum which I represent. I think it may be taken as fairly representing the average asylum on this continent.

It is situated at the head of Lake Ontario, on the Niagara peninsula, and in the midst of the very garden of the province. The asylum district from which we draw our patients is a mixed urban and rural community and the educational facilities are of the highest order. The population of the asylum is one thousand and the population of the district is divided as follows:

Population of cities and towns.....	175,000, or 36 per cent.
Population of rural sections.....	312,000, or 64 per cent.

The population is largely of British origin with the exception of one county which is German. The foreign population from all other countries is very small. The classification is made according to present condition and future prospects, as follows:

Asylum population, 1,000.	
Number of cases requiring hospital treatment proper.....	50, or 5 per cent.
Number classed as physically healthy, but not requiring special hospital treatment and possibly curable.....	200, or 20 per cent.
Number classed as probably incurable.....	750, or 75 per cent.

With this classification in view we erected an isolated hospital with a capacity for fifty beds which we never expect to fill unless an epidemic overtakes us. The other ninety-five per cent. are not treated by hospital methods in the ordinary acceptance of the term; the whole treatment is of a general and

routine character and may be included under two heads, moral and disciplinary.

In visiting asylums one is struck with the general similarity of them all in regard to equipment, method, and treatment. The most striking characteristic in them all is the large number who spend their time in absolute idleness.

In all our large asylums there is a perfect Niagara of mental and physical force going to waste, and how to utilize this force, from an economical and psychological standpoint, is the great and burning question which confronts us to-day. First, how shall we utilize this force in contributing to the self-support of our institutions and thus ease the burden on the State? Second, how shall we direct this force to rekindle or control exhausted and disordered brain function? Insanity may be classified under two general heads, namely, maniacal excitement and melancholic stupor, with many subdivisions to meet varieties of type. The first class may be compared to a machine without a balance wheel, or like a ship without a rudder, tossed on the angry waves of uncontrolled imagination; the second class is that of morbid introspection, like the voice of one crying in the wilderness of despair, or the helpless wail of the Macedonian cry, "Come over and help us." In each case there is a disturbance of the higher psychical or associative centres, which regulate and control these mental processes, and this disturbance may be due to physical disease of the cellular elements of those centres, to defective nutrition, or to enfeebled function from lack of exercise.

No psychological fact is more strongly demonstrated than that we are moulded and fashioned morally and intellectually by our social environment, and that our mental development is weak and rudimentary, or powerful and complex, in direct ratio to the mental stimuli which we receive from our external surroundings; in fact the human race of to-day is but the expressed sum of human experience from the beginning, crystallized into form, custom, and law.

I do not propose to enter into a metaphysical discussion of the origin and existence of psychical phenomena. Whether it is a cosmic entity which pervades the universe and of Divine origin, and which manifests itself in us through the operation of our senses, or whether it is merely the outcome of molecular

activity and the correlation of forces operating from without, on the cellular matter of brain tissue within, it is sufficient for us to know that mind manifests itself and expresses itself to the world in direct ratio to the environment and stimuli it receives from without. This is the foundation upon which all psychological science must rest and on this foundation must its twin sister psychiatry build. If this hypothesis be correct, and I am sure each one can verify it by experience, then we have a clue to the whole psychical process of mind healing, mind building, and mind expansion. This brings me to the practical application of this theoretical teaching in the every day experience of our specialty. Mental and physical activity is the keynote we must strike; there must be no drones in the asylum hive; the brightest mind and the most powerful physique will wither and die for want of exercise; along every afferent nerve fibre there must be a continuous current of force to the nerve cell within, which, acting as a reservoir, again discharges itself by different pathways, resulting in muscular activity or a psychic process. The exhausted brain batteries of the melancholic must be recharged with the electric current of thought; the over-charged batteries of the maniacal must be chained or harnessed to some mental or physical process by which it may expend its force along physiological lines, and, when exhausted and subdued, it may rebuild and fashion itself by improved methods of mind building. A new factor, auto-intoxication, in the etiology of insanity, has been advanced lately and many plausible theories and clever articles have been written in support of this theory. We have abundant evidence of auto-intoxication as a causative agent in the degenerating effect of syphilis and alcohol on nerve tissue. The causative relation of auto-intoxication to maniacal conditions has not yet been demonstrated. The auto-intoxication may be only the symptom of a cause. It is well known that the nervous system presides over the whole process of secretion, metabolism, and excretion, and defective innervation may so arrest the chemico-vital process of metabolism as to leave the vascular system charged with deleterious matter, which would under normal conditions have been excreted. Be that as it may the primary indication is to restore nervous function on physiological lines and thus restore the normal equilibrium between innervation and chemico-vital metabolism. Un-

fortunately many cases have passed into a condition of pathological degeneration before they reach us and from which no human skill can rescue them; many other cases that are still within the pale of physiological possibility pass on from one stage to another until they reach the terminal stage of chronic dementia from sheer mental and physical inertia. It is often a difficult question to determine when the physiological process ends and the pathological process begins.

Take an illustration: C. P., aged 46; admitted to the Hamilton Asylum on April 10th, 1889, in a condition of melancholic stupor. History: An intelligent, well-to-do farmer; married and the father of nine children; attack had been gradual, with no apparent cause; refused to talk or undress himself or take food; was uncleanly in habits; stood in a dazed condition and refused to lie down unless compelled by force; at the end of the first year continued in very much the same condition; walked continuously up and down the corridor and would not sit down except at meals; when taken outdoors he had a beaten path that he trod back and forward; his feet and legs were swollen from constant standing and walking; had to be put to bed for several weeks at a time to overcome the œdema in feet and legs; still refused to speak to anyone, even to his wife and children when visiting him; he ate sparingly; would not eat butcher meat for years; was put to bed and the rest treatment enforced with liberal regimen, which improved him physically but without improvement mentally. As years went on he became more tidy in his habits; would wash his face and comb his hair and make his own bed, but still refused to speak and took no interest in his surroundings; was a great reader in normal condition, but now never looks at a book or newspaper. In April, 1895, was subjected to the thyroid treatment as affording the last ray of hope with absolutely negative results. He was now regarded as a chronic dement and all hope of recovery abandoned. On the 1st of November last the night attendant reported that he overheard a conversation between him and a fellow-patient in the dormitory after they retired to bed. He was told to listen the following night, and again reported for several consecutive nights the same conversation. He then began to talk to the attendants and it was like the voice of one risen from the dead. He gradually resumed his normal habits and became bright and

cheerful, and expressed a desire to see his family. On the 11th of last March he went home on probation. Each report from home was more assuring than the other of his rapid improvement, and on the 12th of April last he was discharged recovered.

Here is a man, who, for eight years, six months and twenty days, had been as dumb as an oyster, and to whom during that time the world was an apparent blank. Suddenly the cloud begins to rise, the mist is dispelled, mental consciousness returns, ideas dawn upon him and multiply, his speech centre is energized, a new motor current goes forth which loosens his tongue and he gives expression to his ideas like a resurrected spirit from the dismal tomb; he returns to the bosom of his family and again resumes his citizenship.

Who can explain the *modus operandi* of this mysterious psychological process? Here is a case that teaches us the necessity of never abandoning the most hopeless case. Everything that mental science could suggest was tried in vain and yet under the ordinary moral and disciplinary rules of the asylum he eventually made an excellent recovery.

It further teaches us that we may trust too much to scientific methods in our psychiatry and neglect the common things that lie within our reach; we may choose the weak things of the world to confound the things that are mighty.

This brings me to the practical application of the theories I have advanced, that the evolution of the twentieth century asylum must be on educational and industrial lines. The success which has attended the education and development of the idiot and feeble-minded should encourage us to go forward; we must descend from the dizzy heights of modern scientific affectation and get back to first principles of mind building. A great field of operation in this direction is waiting to be exploited, the fringe of which we have only yet touched. The mental processes of attention, conception, judgment, and imagination must be aroused, concentrated, and developed by faithful, persevering, and methodic labor. The asylum of the twentieth century shall have its school rooms, art rooms, workshops, and gymnasium, with a curriculum of study in each, graded to suit the varied requirements of mental enfeeblement.

The death knell of drowsy indolence must be rung, and the gospel of mental and physical activity must be proclaimed.

Mental and physical inertia means loss of function, degeneration, and death; well regulated activity means development of function, power, and life.

The twenty-four hours of each day must be divided under three heads, namely, labor, recreation, and rest. A daily programme of orders must be issued under which each patient must be classified and every minute of time must be accounted for with the utmost precision and regularity. The programme must be of such a varied and diversified character as to awaken as many of the dormant faculties as possible, with a view to restore and harmonize the mental equipoise. Blind, haphazard, unreasoning routine must be abolished, and each individual case must be studied and treated according to an intelligent plan.

It may be urged that the equipment required to conduct our asylums on this plan will so increase the cost of maintenance that public opinion will not sustain it. I deny this assumption. Have we not reasonable assurance to believe that with an equipment conducted on this plan the ratio of recoveries would increase at least from five to ten per cent., which in itself would relieve an ever increasing burden from the State, and thus prove to be a profitable investment from an economical standpoint? Looking at it from a higher and more humane standpoint, if we can rescue a larger percentage of our fellow mortals from the awful doom of perpetual mental bondage, then would the increased expenditure be more than justified. Once arouse public opinion to the possibility of such an achievement, then the genius and spirit of the twentieth century will rise to the majesty of the occasion, and that grand humanistic spirit of altruism, which is the glory and honor of our modern civilization, will declare that it shall be done. On us as stewards of our specialty lies the responsibility; every step in advance must come from within; we have accomplished much in the past; there is a wide field before us yet waiting to be explored. We have a double responsibility; first, in preventing, and, second, in curing insanity. The public are either ignorant of or ignore the fundamental laws which govern the procreation of the human race; they are keenly alive to the law of methodical selection in breeding a fast horse or a beautiful dog, but quite indifferent to the same law in breeding an improved type of men

and women. Hereditary transmission of mental and bodily defects haunts us with a persistence only equalled by its universality.

In order to adjust ourselves harmoniously to our whole environment we must be born right, then the task of living right becomes easy. It requires the most rigid discipline, crucifixion, and scourging for some to live even an outwardly decent life; they are tossed on the angry waves of inherited tendencies and passions, which make life to them one long continued tragedy. To others life is like the music of the *Æolian* harp, which sweetly mingles all the harmonies of sound; they sail down the placid stream of life, because the ship is well rigged, well ballasted, and well crewed.

As alienists and specialists in mental science we have a duty to perform to the public, in teaching them how to live in conformity with natural law and how to avoid the many pitfalls which beset them on every hand and which drag them down to mental and physical degeneration.

Our asylums should be an epitome of how to live in harmony with natural law, and should exemplify both by teaching and practice how to attain the highest type of mental and physical perfection. Their whole equipment must have this end in view, and should be of such a varied character as to draw out, develop, and harmonize weak and disordered function, and thus enable it to adjust itself to natural environment. We must provide such a rich dietary of mental and physical pabulum as shall strengthen and enrich the whole economy of life, and enforce such a discipline as shall regulate and control the weak and discordant habits which have been running riot in prodigal excess; we must classify, systematize, and individualize upon a well regulated plan of treatment so that each mind shall be watered and fructified by continual showers of refreshing growth and development.

The dawn of a new century is a propitious time for the advent of a new psychiatry, not based on hospital ideas, which should be only part of a harmonious whole, but exploiting a newer and richer field of psychic stimulation on educational and industrial lines. We must get out of the dull and stupid routine of the past, and, with our minds ablaze with a throbbing inspiration, reach out to a higher plane of success in the future.

We must be students and teachers in experimental psychology and not mere empiricists in mental science. When we review the whole field of human activity, and witness the mighty strides which have been made in every branch of science, it becomes us to examine ourselves to see whether or not we are abreast of the age in everything which pertains to our specialty, or whether in the indulgence of a spirit of indifference and self-security we may have lagged behind in the race.

The time has come for us to review the etiological factors which predispose to mental enfeeblement as well as to mental development; both the profession and laity have long subscribed blindly to the shibboleth of "*mens sana in corpore sano*." We have been taught to believe that the differential equation of mind can only be solved in terms of a physical integrity of brain tissue, and that mind expresses itself in direct ratio to physiological or pathological conditions.

We have abundant clinical experience that all mental alienation cannot be included in this general formula. Take the large class of paranoiacs who throng our asylums and who enjoy perfect physical health and live to old age; it cannot be said of them that their systematized delusions are the result of pathological conditions; the whole process of mental and bodily nutrition is conducted perfectly along physiological lines and neither macroscopically nor microscopically can the slightest evidence be found of cellular degeneration. We are driven then to the conclusion that this condition must be due to congenital, anatomical malformation, or to a faulty morphogenesis of the brain cell, either hereditary or acquired from unhealthy environment.

The world is teeming full of paranoiacs everywhere and it is only the exaggerated forms which reach the asylum. It is held by a certain school of psychologists that the presence of a delusion is in every case the evidence of a degenerative process, and the megalomania of general paresis is pointed to as proof, but they forget that in paresis the degeneration is rapidly progressive and limited to a period of a few years, and is due to a specific cause, whereas, in the paranoiac, it is compatible with the most perfect physical health and the patient usually dies of old age or some intercurrent disease.

All sorts of theories have been advanced to explain the psychic process of a delusion, but none has received general acceptance. The mistake has been made in assuming that every delusion is the result of a pathological entity and that the psychical mechanism is the same in every case.

The paranoiac reasons from his premises with the greatest logic, and to attempt to reason with him only maddens him and intensifies his delusion. There may be a defect in the higher centres of quality, but certainly none of quantity, for he enforces his ideas with all the candor and vehemence of the most enthusiastic devotee.

In recent years the law of associative nerve centres has been generally accepted to explain the phenomena of mental manifestation, but clinical observation proves the existence of a higher presiding executive centre of judgment, which examines the quality of every external stimulus, and, after weighing, measuring, and balancing, executes and determines the whole phenomena of mind. It is not the quantity but the quality of this power which distinguishes us from one another, and which enables us to express ourselves normally or abnormally to our environment and stamps us with success or non-success in every relation of life.

To sum up, I have attempted to prove that too much attention has been paid to the physical treatment of insanity and too little to the mental. The hospital idea is the outcome of this tendency; we attempt too much by medication and surgery and too little by mental stimuli, forgetting that the reaction of the mental on the physical is quite as potent as its converse.

The hospital is an important adjunct to every asylum, but it is only like an outpost on the frontier of the great unexplored region beyond. To the great mass of insane, hospital treatment proper is useless, except in individual cases, or as emergency may require. The rage for physical athletics is an evidence of the tendency of the age and we may produce a race of physical giants who are only mental pigmies. The necessity for mental athletics is equally necessary to maintain an all around development, and how to harmonize them both in proper proportions is the fundamental basis of all treatment of the insane.

SOME NEW HOSPITAL BUILDINGS.

By WM. M. EDWARDS, M. D.

Medical Superintendent, Michigan Asylum for the Insane, Kalamazoo.

In this paper it is not the intention to discuss at length new construction for asylum purposes, but to describe briefly two buildings recently erected at the Michigan Asylum for the Insane and to speak especially of hospitals for the treatment of acute cases. No idea is entertained of discussing the relative merits of complete institutions for the treatment of acute cases in comparison with those for the chronic insane, but to speak of separate detached buildings erected in connection with existing asylums for the care of recent and presumably curable patients. We are proud to tell ourselves that psychiatry has made rapid forward strides during the past two or three decades, and from time to time we justify our existence by enumerating some of the points wherein we are, in our judgment, better than our predecessors were. In this enumeration we include improvement made in the construction and arrangement of hospital or asylum buildings. We of the State asylums look with admiration on the magnificent equipment of a McLean or Sheppard and Enoch Pratt hospital or on such a structure as the Goddard House lately built at Butler and are proud that our confreres have such buildings and equipment at their command. We can hardly hope at present to find anywhere a legislature so enlightened as to appropriate funds for buildings at our State institutions that shall compare with these and others of the better type of private institutions.

The corridor type of asylum construction may fairly be assumed to have given place to the detached or cottage style and improvement in details in this class of buildings is the object we are now seeking. Experience has shown that the so-called

asylum for chronic cases is not the unmixed blessing that its progenitors believed it to be, and that idea has, in the main, been abandoned and the asylums for most districts must make provisions to care for all cases, both acute and chronic, in the best possible manner. In many of the older asylums the existing practice is to allot certain wards for the reception of all admissions which are later classified and the recent cases placed in hospital wards in the best environment for improvement and cure. In the asylums of the cottage type this plan is carried out by assigning certain buildings or blocks for this purpose. All institutions have their infirmaries or hospitals for those physically sick or especially feeble. In many asylums in this country and abroad much has been done within the past two or three years in this direction of special hospitalization. But few buildings, however, so far as my knowledge extends, have been especially constructed for the purpose of treating recent and presumably curable cases only. State legislatures are not, as a body, in sympathy with the most advanced medical ideas, and it is difficult at times for such bodies to see the necessity of providing even the surroundings for custodial care of the insane, to say nothing of appropriating for the construction of especially adapted buildings and the purchase of appliances for the most scientific treatment.

The older members of this Association recall as occurring within the period of their work the practical abolition of mechanical restraint, the development of the industrial idea as applied to more extensive work of all kinds by patients, the inauguration and perfection of training schools for attendants, the employment of the most rational therapeutic measures and the evolution of the asylum into the hospital.

Another step forward in the care of the insane will be the construction of detached buildings which shall be hospitals in the fullest sense of the term for the treatment of those who are assumed to be curable. Such hospitals should be along the lines of the modern sanitarium or hospital for the treatment of ordinary physical diseases with such special alteration of principle in construction or equipment as might be required for insane patients. Heretofore in asylum construction, in many instances, the prevalent idea has been to secure the greatest amount of accommodation for the smallest outlay. To provide

room cheaply for more insane commends itself to taxpayers, and if custodial care only is sought the cheaper that healthful and adequate accommodations are provided the more commendable will it be.

Munificent gifts of hospitals, sanitariums, and laboratories have placed within the hands of general medical men, surgeons, and specialists in other lines the means for the most thorough and accurate study of disease in its various morbid processes and for its most scientific treatment. The State has, in many instances, contented itself with supplying to the insane food, shelter, care, and medical oversight, but has not provided the buildings nor the equipments for this modern scientific care and treatment of cases. It would seem, in order that an institution shall be equipped to do the best work, that in connection with it shall be established a hospital or hospitals in which the acute cases alone may be treated. But few of our older institutions are so planned that any given portion may be set apart to the best advantage for this purpose. The classification of patients, as the convalescent, the intermediate, and the refractory or disturbed, does not give a proper place for the individual in whom insanity has but recently manifested itself. A special hospital for acute cases will, by separating them from the general asylum population, contribute to the comfort of each. The quieter class of patients will be free from the noise and disturbance incident to the introduction of certain forms of new cases on the general ward, and the new patient, if he is of the depressed or susceptible type, will be free from many of the sights and sounds that distress an already overwrought mental condition. By the grouping of our new cases we shall be able to supply a better equipment for their treatment and have them in closer proximity than would otherwise be attained. The greater success obtained by individualism in the care of the insane is attested by all asylum officers. To individualize in a separate hospital building would be to broaden the idea and increase the prospects of success. In a detached hospital building a highly efficient class of nurses could be constantly in attendance and the largest required amount of personal treatment and attention be given to each case. Individualism could be more easily attained in such a hospital than in the general ward. The State by supplying such hospitals would

give the insane poor individual all the benefits that the rich are now able to obtain in private institutions. The poor person whose mental and physical health is so essential to the welfare of himself and his family would thus have all the opportunity to be afforded in any place for his restoration. In the smaller hospital for acute cases the convalescent would be separated from many of the unpleasant events incident to living with the chronic and demented. A finely wrought mental and nervous organism would not be prostrated upon emerging from a mental cloud by witnessing, perhaps for the first time in life, the horrors of a person in an epileptic seizure. Were we able to aggregate all our recent cases who might be deemed curable in a comparatively small hospital building we should have there a field for the very best effort of the asylum in medical, nursing, hygienic, dietetic, and other forms of treatment. The staff, without neglecting the interest of any other patient, could direct its strongest and best efforts to the welfare of the residents of the hospital for the acute.

The economy of such construction may be demonstrated by multiplying the value of each sane individual to the community by the expectancy of the life of each person thus restored who otherwise might become chronically insane. There are living today in the Michigan Asylum for the Insane at Kalamazoo three persons who are still under treatment and who were originally simply maniacal and probably curable cases whose maintenance has cost more than \$24,000. Could they have recovered within the period when such cases are curable, there would have been a saving of quite enough to construct such a proposed hospital to say nothing of the gain to communities and the State of three useful and productive citizens who have been idle for many years.

It is unfortunately true that along with our study of neurons psychic centres, and the latest method of staining nervous tissue, we must bend our energies in some degree to devising houses wherein the material wants of the insane shall be met. The ever increasing number of cases seeking admission to our asylums drives us to the repetition of the annual or perennial request for more room wherein to house our patients.

In answer to oft repeated requests of that character, the Michigan legislature has, within the past few years, appropri-

ated money for the construction of two buildings at the Michigan Asylum for the Insane at Kalamazoo, a description of which may be perhaps of passing interest. The first appropriation was for a detached building not intended for curable cases, but, on the contrary, for the paralyzed, feeble, untidy, helpless, and terminal classes of male patients, and was occupied in October, 1897. It is primarily of one story, though a portion is two stories in height; is situated in open space with no other building near except on the north, and an eighth of a mile away from the central point of the entire group of buildings. It is in the general form of a cross, the south arm of which is a large day room, the north arm containing the sleeping apartments, the east the dining and serving rooms, and the west arm the toilet and water closets which have cross ventilation. The basement, eight feet in the clear, contains under the dining-room a large, airy kitchen opening to the east and south. Adjoining this are a scullery, pantry, storerooms, fuel room, cold storage room, and dumbwaiter. Under the dormitory portion is located the heating system of the fan or blower type, the Turkish bath and the general bath-rooms for the use of male patients who may be brought to this room through a large tunnel connecting this building with the male department proper. Under the large day room is a projected bowling alley only. In the rear part of the room is located a morgue, large and well lighted, adjoining which is a closet and sink with hot and cold water.

The first floor comprises the day room, fifty by seventy-two feet in size, which is abundantly lighted and ventilated. In the front part is the dining-room, and adjoining this is the serving room and dish pantry. The main entrance is entirely under cover, and at the head of it is a room which may be used as an office or reception room. Opposite to this are two single rooms and a side entrance leading out on a large porch, fourteen by ninety feet. There is another porch nine feet six inches by thirty-three feet, and a covered entrance way on the south. In the part of the building opposite the large day room are situated the dormitories, eight containing eight beds each and the ninth six. The hall separating these expands at its further extremity into a sitting-room twenty-four feet square, which has at one side a large fireplace. In the rear wing are two single

rooms, linen, clothes, and shoe rooms, lavatory, rain, and tub baths and water closet.

It was estimated in the construction of this building that twenty-five per cent. of the patients could go upstairs to sleeping quarters, and the second story accordingly has dormitory room for twenty-five beds, and, in addition, there are ten rooms for attendants, night nurses, and other employes. At the west end the hallway widens into a sitting-room that is twenty-four feet square. Upon this floor is a bathroom and water closet, clothes, and linen rooms for the patients, and a private bath and water closet for attendants.

The building is quite plain in its external appearance. The first nine feet is of ordinary boulders or field stone blocked, to dimension, the balance of red brick with a slate roof. There is a stone water table, and stone window sills, but no other ornamentation. All partition walls are either of brick or four-inch, hollow building tile. Iron "I" beams are used freely in the construction. The floors are all of oak except in the baths, lavatories, closets, etc., where they are of tile. The base is what is known as the hospital style of Portland cement, and the plaster for the first six feet is gauged with Portland cement.

Steam to heat the building, for cooking, hot water, and other service is brought from the central boiler plant, a distance of fifteen hundred feet. The building is ventilated by means of a one hundred and forty inch fan, revolving one hundred and ten times per minute. The air, being taken from the outside, is first passed over a tempering coil of three sections, then driven through a heating coil of seven sections. The foul air from every room is taken through galvanized iron pipes, collected into one large trunk flue in the attic and thence carried out through the roof. The temperature of the building is regulated by the Johnson Electric Service system of heat regulation, thermostats being placed in appropriate positions throughout the building. The hot water boiler located in the basement is controlled by a similar device and has circulating pipes to each fixture. The basement floor is laid with Portland cement and the building is wired for electricity and piped for gas throughout.

In 1897, after much difficulty, a legislative appropriation was secured for the erection of a detached hospital building for

acute cases among females. It was required that the building should accommodate forty patients, but the appropriation was reduced below a point at which it seemed possible for the trustees of the asylum to build a strong and economical building, but work was at once begun. The small amount of the appropriation made it necessary to dispense with the services of an architect. Accordingly through the courtesy of the superintendent of the McLean Hospital, we were permitted to copy the general plan of the Belknap House at that institution. Being obliged to practice the most rigid economy, it became necessary to change this plan in many details, to leave off all ornamentation, and to construct it as cheaply as possible consistent with good building. We, however, preserved most of the salient features of this most desirable building after which we have patterned.

The building has a stone basement, is of red brick, has a slate roof, and comprises first and second stories and attic. In the basement is the heating apparatus of the ordinary indirect type consisting of the necessary piping and radiators. Steam for heating and all other purposes is brought from the central plant, a distance of fifteen hundred feet, through a tunnel. In the room in the basement into which the tunnel opens is located an automatic apparatus for pumping back the water of condensation and the boiler for the hot water service. In addition to the heating apparatus the basement contains the kitchen, scullery, store, and cold storage rooms and Turkish baths.

The first floor has at one end a seclusion ward of three rooms with bath and toilet, lavatory, and mop rooms which is separated from the remainder of the floor by a corridor and double doors. There is, in addition, a dining room, serving room, reception room, office, operating room, massage and electric room, parlor, twelve rooms for patients, baths, water closets, lavatories, mop rooms, linen rooms, general corridors or hallways, and alcoves. The second floor is subdivided much as the first. It contains a seclusion ward separated from the remainder of the floor, a parlor, dormitory, twenty-three single rooms for patients, rain and tub baths, water closets, lavatories, linen rooms, alcoves, and general hallways. The third floor has a large gymnasium and six large rooms for attendants and night nurses. Each room in the building has an inlet for fresh air

and outlet for foul air which is carried out through the roof. It also contains a large clothes closet. The floors throughout are of oak except in the baths, water closets, lavatories, mop rooms, and operating rooms where they are of tile. All partition walls are of brick or four inch building tile; the latter when not otherwise supported rests upon steel "I" beams. The finish is of southern pine and the doors of Washington cedar. The temperature of the building is controlled by an electric service apparatus, the thermostats being appropriately located. The hot water service is regulated by the same device, and there are circulating pipes from the boiler to each fixture. There is an inside four inch standpipe with a hose closet on each floor. The sewer within the building is of iron; the entire basement is floored with Portland cement. Every room in the house is lighted with electricity and the building is piped for gas.

In this house it is proposed to receive all new patients whose condition upon coming to the asylum is such as to warrant a belief that they may be restored to their normal health, or so far relieved as to be able to reside safely outside the asylum. Senile cases, epileptics, and organic cases will not be admitted. It is proposed to equip this hospital with the best apparatus at the command of the asylum and to leave no effort wanting that may contribute to the restoration of the sick treated in it. The selected new cases, or those from the crowded wards of the main asylum building that shall be placed in this new hospital, will be retained in it so long as their interests seem to be better subserved than they would be in the general wards. The greater probability of cure in a given case would be the determining factor in deciding the admission or detention of the patient at the hospital building.

STATE CARE VERSUS COUNTY CARE FOR THE IN-SANE.

By **BARNARD D. EASTMAN, M. D.,**
Late Superintendent Topeka Insane Asylum, Topeka, Kans.

The State of Kansas is four hundred miles long, east to west, and two hundred miles wide. In 1880 with a population of almost exactly one million there were one thousand insane or one to each one thousand according to the United States census. In 1890 with a population a little short of one and one-half millions the proportion of insane was one and two-tenths per thousand or nearly one thousand eight hundred. The estimated number at the present time is from two thousand to two thousand two hundred.

Kansas has two State institutions for the insane; the older, at Osawatomie, twenty miles from the eastern boundary, has a capacity for about one thousand and fifty patients; the other, at Topeka, sixty miles from the Missouri line, has convenient capacity for about seven hundred and fifty, soon to be increased to eight hundred and fifty. They were located years ago when the inhabitants were mostly restricted to the eastern half of the State and were not then so far removed from the center of population as now, although western Kansas always will be much less thickly settled than the eastern portion.

The growth of these two institutions has not kept pace with the increase of insanity, consequently, chronic cases have from time to time been refused admission or discharged to make room for recent and presumably curable ones. When thus refused or discharged, the insane, under our laws, must be cared for by the counties, which are ultimately reimbursed by the State. The necessity of providing for incurables led to the development of receptacles which by unwarranted assumption are

called "private asylums." There are seven or eight of these receptacles in the State, with a capacity of from ten to sixty inmates. These receptacles receive for boarding, clothing and attendance, for everything, in short, three dollars and fifty cents per week for each inmate. Only one, the largest of these "asylums," is conducted by a medical man, a capable physician and surgeon without special training in psychiatry, who aspires to maintaining a satisfactory institution for more wealthy patrons, but he is hampered by the presence of a large number of cheap chronics. While our probate judges assume to commit patients to these receptacles, they really exist without any warrant of law, are under no surveillance, are responsible to no one and as a rule are thoroughly undesirable.

It is important, therefore, that the State provide for her insane additional accommodations, of a grade commensurate with medical, social and economic requirements.

While considering this question, in anticipation of the meeting of the legislature in January, 1899, an old friend and former member of the board of trustees of State charitable institutions, now residing in Minnesota, whose knowledge, experience and judgment in such matters are of the highest order, urged upon me to fully examine the "Wisconsin system." I, therefore, began as thorough a study of the subject as was possible, from all available sources of information and without prejudice. I regret that I was not able to visit Wisconsin and make a personal examination, both of the State hospitals and of the county asylums.

Soon after I began this study I was asked by our Secretary to write a paper for this meeting, and, as a result of some correspondence, I put before you considerations touching State care versus county care or New York methods versus Wisconsin plans.

I desire at this point to say I do not expect my paper to settle this question. I am not at all sure it can be settled in any one way, once for all. Probably different States will work out the problem in different ways and each one think the best results have been attained. Besides, existing conditions may necessarily control future development. But my paper is especially intended to place before you the arguments on both sides of the question and to elicit full discussion, that all may gain informa-

tion on this very important topic. I may here insert, parenthetically, that when my work was nearly completed I learned that a paper upon the Wisconsin system, by one of the members from that State whose statements must be considered *ex cathedra*, was to be presented. Had I known this, at first, I should not have ventured to occupy the time of the Society.

The modern humane and curative treatment of the insane began about a hundred years ago when the horrors of the Bicetre appealed to the humanity of the immortal Pinel. For dungeons, darkness, chains and cruelty he substituted freedom, light, occupation and kindness. Although the work of Pinel led to great improvement in the care of the insane, the question was so important, so far reaching and so ignored by the body politic and by officials, as to demand the most strenuous efforts of philanthropists in every country, in searching out, and forcing upon the public and upon legislators, the condition and needs of these unfortunates.

In 1841 Dorothea L. Dix began her personal investigations into the condition of the insane in the jails and almshouses of Massachusetts. In 1843 she presented a memorial to the State legislature, the first of a long series, in many States, depicting the horrible outrages upon humanity which she herself had seen, and imploring the "men of Massachusetts to give these unfortunates suitable care and protection." The result of her efforts was the securing of State care for most of the insane, but neglected insane in almshouses are still found in the State.

In New York about thirty years ago Dr. Willard began an agitation against the notoriously inadequate care of the insane in the various county receptacles. Ultimately this movement resulted in the adoption of the State care legislation and the commissioners in lunacy have just congratulated the public that the insane of the State are now all under State care.

Meantime other States have continued various methods of mixed care. New Hampshire has a State Institution for Insane with all proper safeguards thrown around its inmates by legal requirements for commitment, by officers of the State government empowered as *ex officio* visitors; by inspection by legislative committees, by a board of trustees and by having competent, responsible medical men as chief officers. There are also six or eight county asylums or receptacles in that State,

accommodating, in the aggregate, about the same number of inmates as the State asylum, practically without any safeguard against improper commitment, unjust detention or inhuman treatment.

Some sixteen years ago Wisconsin adopted a plan by which a large part of her insane are cared for by the counties, in asylums built for the purpose, superintended by non-medical men under the direction of the State board of control, who claim this to be the best method yet devised. Pennsylvania has adopted a somewhat similar plan (but with undesirable modifications) and Minnesota is said to be very favorably considering it.

Without taking time to speak of procedure in other States it is clear there is wide diversity of opinion as to the best method of caring for those who are deprived of their reason and I proceed to consider the arguments *pro and con*. The different aspects of the question are humanitarian, medical, economic and social.

The sources from which I have sought information are the reports of the New York lunacy commission, of the Wisconsin State board of control, a paper by Mr. Heg, a member of the Wisconsin board, which was read before the conference of charities and correction, reports of the Wisconsin State hospitals, a report of the Pennsylvania committee on lunacy, personal letters, etc.

The lunacy commission of New York say in their last report: "It is cause for congratulation that all of the dependent insane in all of the counties are at last brought within the beneficent custody of the State, which bestows on them all an equal measure of care and consideration. No one now ventures to claim the old system was more humane, more economical or better in any respect; no intelligent person now advocates a return to the old way of dealing with the insane." In perfect fairness it should be noted that the "old way" to which this quotation refers was a mixture of State and county care, but the county institutions were not under State surveillance. "Nowhere else, so far as can be ascertained, is there in actual operation so broad and catholic a policy in relation to the care of insane persons as prevails to-day in the State of New York. A system which makes it obligatory upon all counties, as well as to their financial interest, to place all of their de-

pendent insane in State hospitals under the absolute control of the State." The New York system secures the best medical care for all the insane, in institutions fitted with the best of appliances for curative and upholding treatment, with varied occupations, amusements and entertainments, as well as religious services, all having a tendency to cultivate and preserve to the last whatever may be left of mentality.

The Wisconsin board of control say in the third bi-ennial report: "The most humane, generous and scientific care of the insane, compatible with the economy rightly due to the taxpayers, is the problem vexing the philanthropic mind in every State. Wisconsin, however, seems to have come nearer to solving the question than any other commonwealth. Its system for caring for all the insane is unique but very simple. The so-called Wisconsin system is being carefully investigated by sociologists and alienists from many other States and is not unknown in Europe. The fundamental principle of this system is that the energies of the State hospitals for the insane shall be devoted to the cure of the curable." New patients are, therefore, sent to the State hospitals, but when hope of recovery is abandoned they are "transferred to that one of the twenty-three county asylums nearest to his home and friends." These county asylums are under the supervision of the State board of control. They are under the charge of non-medical superintendents and have comparatively few employees. A neighboring physician visits when called.

I have carefully read Mr. Heg's paper; it is interesting and instructive, but it seems to me, in some parts, to be disingenuous and scarcely fair to the hospital side, which, possibly, he does not fully comprehend. According to this paper the Wisconsin system was devised in 1881 and is the best "yet devised and proved." The basis of this plan is that the counties may provide for their own chronic insane, "under such rules as the State board of charities prescribe," and be paid by the State one dollar and a half per week for each person thus supported and conversely the county pays the State one dollar and a half per week for each person it has in the State hospitals, which "are kept for the acute cases entirely," and "are wholly hospitals for the new cases of insanity in the fullest sense of the word."

It seems to me this claim is overdrawn, that the county asylums must needs be inadequate to taking care of all classes of chronics. Indeed, the secretary of the Pennsylvania committee on lunacy, who personally examined the Wisconsin system, says only the "chronics who are not ill, feeble, violent nor dangerous" are removed from the State hospitals. Even the Wisconsin State board of control itself, in its third report, says: "The so-called Wisconsin system will not be a complete success until facilities are provided for the proper and safe care of the more noisy, violent and dangerous classes of the chronic insane. One of these cases will disturb the sleep of all the other inmates and in many ways add to the difficulties of management. They cannot be kept at the State hospitals, for the number would increase so as to crowd out the newer cases of insanity, possibly curable." A special institution for these classes is, therefore, recommended.

In speaking of the success of the county asylum system Mr. Heg says: "The secret lies in the plain fact that the insane are treated as human beings." Surely the author cannot mean what his language clearly implies, that it is only in the Wisconsin county asylums that the insane have been treated as human beings. Do not misunderstand me, I am not condemning the Wisconsin system because of inconsistent and extravagant statements by a partisan, through misapprehension of what other systems have done. I am searching for the truth. Such statements only lead to careful sifting of the evidence. We must not allow extravagant statements to prejudice us against a system that really has so much good in it.

I regret to see in this paper the too common designation of the general type of State institutions as "palaces in which unfortunates are 'herded.'" The expression "herded" is unjustified.

Of the county institutions this paper says: "Some of the newer asylums are most beautiful structures, finished in hard woods, with an abundant supply of water, lighted by electricity and heated by steam. * * * The majority of the inmates come from very poor homes and to keep them in the palaces built for the insane in many States does not benefit the patients unaccustomed to such splendor and luxury." Are not these statements contradictory? Are we to infer the pauper insane of Wisconsin

are accustomed to "most beautiful structures," including electric light and steam heat and "billiard tables," as mentioned by Dr. Wetherill?

Is it a fair and candid comparison to state as this paper does, that the amount of medical treatment which the chronic insane "receive at the State care asylums is limited to an autopsy and such treatment of physical infirmities as is always found in any large body of humanity, while at county asylums they have almost perfect liberty, open doors, no restraint of any kind (on the previous page about the usual hospital per cent. of restraint is admitted), together with home comforts of all kinds and personal, individual attention?"

Secretary Wetherill of the Pennsylvania committee on lunacy visited the two Wisconsin State hospitals and five county asylums in the autumn of 1896. He reports the unqualified success of the Wisconsin system. His report, however, does not seem altogether consistent. He says the Wisconsin plan includes "removal of all chronics who are not ill, feeble, violent nor dangerous from the State hospitals." I infer that the noisy and destructive must also remain in the hospitals. With these classes of chronics left in the State hospitals how can they be "no longer mixed asylums?"

Both Mr. Heg and Dr. Wetherill write of State institutions as "expensive and pretentious palaces." About two thousand seven hundred chronic insane are in the Wisconsin county asylums, and "to have cared for these by the State would have required buildings that would have cost two million dollars." It is true that many States have made unwisely large expenditures in building, but there is not so wide a difference between economically built State institutions and the Wisconsin county asylums as might be supposed. The "asylums" cost, according to Heg's table, one million four hundred and twenty thousand one hundred and seventy-two dollars, almost three-fourths as much as State hospitals would have cost according to his own figures. To be sure, five hundred thousand dollars is worth saving, but I was surprised at the comparison of actual figures, after the introductory statements. The most expensive of these asylums, Rock county, cost per capita one thousand and fifty dollars on the number of inmates (one hundred and thirty-six), or nine hundred and fifty-seven dollars on the maximum num-

ber (one hundred and fifty) as limited by the board. The average per capita cost of the twenty-three institutions is about five hundred dollars upon the number of inmates. I do not know the capacity, and if the State hospitals were included this figure would be considerably increased. The two State institutions in Kansas cost per capita about six hundred dollars. In perfect fairness it should be stated that this per capita will be somewhat increased by the completion of the Topeka asylum, and ought also to be increased by the purchase of additional land for that institution, the mistake having originally been made of not securing land enough.

Much emphasis is laid upon the better curative results obtained in the State hospitals since the adoption of the county system. Dr. Wetherill says: "The hospitals are restoring to reason anywhere from nine to eleven per cent. of the whole number treated annually, which is nearly twice as much better as State hospitals can do which are crowded with all classes of insane, acute and chronic." I am confident that in penning the foregoing the writer misled himself. Estimating the comparative success of institutions for the insane by the per cent. of recoveries is very unfair because of the very different conditions which obtain. Only one method is more unfair and that is one adopted by a critic, who, pointing out that one institution had seventy-five deaths and another twenty-five, decided the latter was three times as well managed as the former. In New York, for instance, the State hospital accommodation is increased from year to year, so as to provide for all the insane. Therefore, the per cent. of recoveries upon the whole number treated annually is the annual per cent. of recoveries upon the whole number of insane in the State, and the same incurables enter into the calculation year after year. In Wisconsin the chronics are being continually removed from the hospitals and do not appear year after year in the number treated annually. To give a fair comparison, the per cent. of recoveries should be calculated upon the annual number treated, both in the State hospitals and in the county asylums.

Expressions from persons residing in Wisconsin vary; some commend, some condemn and some are divided. One writes that the system, properly speaking, is county care under State supervision, commends its efficiency, and mentions the ample

power of the board of control to correct abuses, in short, "it gives satisfaction because of its merits." Another specifies the benefit of close contact of patients with relatives, frequent visiting and more land under cultivation than by the insane of any other State. He notes, however, that while profit to counties is the inducement to build, such profit is somewhat deceptive because the relation of the taxpayer to both the county and the State is not clearly considered. This is especially true of those counties which have no local asylums. He points out the importance of efficient State control. Another says, influential persons always want their friends retained at the State hospitals.

No system of caring for the insane can be perfect; there must be more or less of compromise. There appear to be but three objections against the New York plan of State care: First, that such care is unnecessarily expensive both in construction and maintenance; second, the full measure of the benefit of occupation for the chronics, both remedial and economic, is not obtained; third, that State institutions, fewer in number, are necessarily more widely separated, rendering it more difficult and more expensive for friends and relations to visit the inmates.

That there is force in these objections is conceded. Hospital construction in the past has often been unnecessarily expensive, but upon carefully considered lines State care buildings for all the insane can be constructed for but little more than the Wisconsin system. The cost of current support will be considered later.

Occupation has long been regarded as a very important mode of treatment in all institutions, and the aim of every superintendent is to furnish his patients with all the employment possible. It is probable that under the Wisconsin system, with only able-bodied, manageable chronics in the county asylums, there is really more remunerative work obtained than in the larger State institutions.

The greater convenience for visiting the county asylums by friends of patients is a point in their favor and against fewer and more distant State hospitals in most chronic cases. In some cases contiguity and publicity are objectionable.

To county asylums the objections are:

First.—Imperfect medical supervision. Although one of the advocates of this system says, "there is no resident physician,

no medical organization whatever and no need for it," it seems clear to me that many chronics who ought, under the system to be at the county asylum, must be left at the hospital in order to have proper medical supervision. Indeed, one of my Wisconsin correspondents write, "Any system so lacking the elements of immediate and constant medical care is inadequate to the needs of the insane, acute or chronic."

Second.—Absence of facilities for proper classification. This must lead to exclusion of disturbed, noisy, violent, sickly cases which must, therefore, injuriously affect the acute cases in the hospitals. Every superintendent realizes the objections against these classes of patients even when in the usual proportion, but when they constitute an abnormally large proportion how much more damage to the acute cases.

Third.—The Wisconsin system it is claimed "permits the energies of the larger State hospitals to be devoted entirely to the cure of the curable" and "they are purely and wholly hospitals for the new cases of insanity in the fullest sense of the word," but, according to advocates of this plan, the "ill, feeble, violent and dangerous" and inferentially the noisy and destructive remain at the State hospitals. Further, I am told, the fact that the asylums have no resident physician seems to encourage the idea that a sufficient medical staff at the hospitals to properly care for so many acute cases is a needless luxury. It goes without saying, that the ordinary institution staff would prove inadequate when the inmates are all acute cases.

Fourth.—It is not practicable at the county asylums to provide the entertainments and Sabbath services which have been demonstrated to be so valuable in keeping up the morale of chronics.

Fifth.—Some of the advocates see the "great necessity of great vigilance lest the very economical county managers bring matters down to the old almshouse standard of cheap and consequently very nasty." The board of control in their report say, "We see that eternal vigilance on the part of the State is absolutely necessary to the continued success of the system." Vigilance is necessary in any system, but it is a much more difficult task to supervise many county institutions than fewer State institutions. In Pennsylvania the law allows "any county, municipality, borough or township" to organize for the

care of their own insane. Such wide opening of the doors of local care is altogether too likely, it seems to me, to let in old time almshouse abuses.

It is to the credit of the Wisconsin system that it has removed the insane from the jails and from the almshouses. It is certainly much "better than the neglect patients suffer where they are left without any care."

Economically, it appears to me the claims for this system have been somewhat overrated. The buildings cost a large share of the necessary cost of good State buildings. In estimating economy a distinction appears to have been made between the "State" and the taxpayers. Take a county without any asylum. It must pay for its chronics to an adjoining county one dollar and a half per week and its share of tax for another one dollar and a half paid by the State. For its acute cases it pays one dollar and a half per week together with its share of the remainder of the hospital per capita. This remainder equals the whole per capita cost in Kansas, which, to be sure, is considerably less than the average in the northern States.

Since writing the foregoing, I am in receipt of a letter written by Secretary Hart of the Minnesota board of charities and corrections in a very fair and candid tone. He states that in 1885 he visited five of the Wisconsin county asylums, and formed an opinion, which he submitted to his board, against the adoption of the Wisconsin system. But in February, 1898, he announced to this board that he had changed his views and recommended the adoption of the system. He notes that the Wisconsin system has stood the test of time and of political changes with improved efficiency, that it seems impossible to prevent overcrowding under State care, owing to the difficulty of obtaining legislation for large State institutions, while the Wisconsin system is elastic, requiring no legislation to establish a county asylum. Notwithstanding the candor of Mr. Hart he seems in one respect, at least, to fail to grasp the situation. He says of State hospitals, "The number of single rooms is always too small, so noisy patients are forced on the general wards, as well as those patients who from their natural inclinations would be much happier alone." Can it be supposed that the county asylums can furnish a larger proportion of single rooms and more

suitable accommodations for noisy patients, and, it may be added, for other troublesome classes?

Bringing my lengthy paper to a close I will formulate certain propositions which seem to be fairly clear, for and against the two systems, hoping papers to follow, together with discussion, may clear up doubtful points, if, indeed, they can be cleared:

First.—The New York system of State care gives the best medical care to all.

Second.—The Wisconsin system is much better than inadequate State institutions.

Third.—State care, as institutions go, does not furnish as much remunerative employment as county care.

Fourth.—County care renders it easier for friends to visit chronics.

Fifth.—Reasonably satisfactory State care under economical management is not much more expensive than county care, but the average is considerably more costly.

Sixth.—There is danger that county care may deteriorate into almshouse care.

Seventh.—Insofar as the Wisconsin system increases the number of acute cases in the hospitals the medical staff should be proportionately augmented.

Eighth.—The county asylums are unsuited to the care of the excited, noisy, dangerous and helpless cases; neither should they remain in the hospitals which are "to be devoted entirely to cure;" therefore, a special institution or widely separated department for them should be furnished.

Ninth.—The State care plan and the Wisconsin system each have desirable features, but every system yet devised is to some extent one of compromise and no one thoroughly and satisfactorily meets all the medical, humanitarian, economic and social indications.

Tenth.—Existing conditions will necessarily control to a considerable extent the formulating of plans for additional accommodation for the insane in each State.

Eleventh.—In my opinion, the ideal plan for the care of the insane, in a large State, is numerous, rather small, State institutions, conveniently situated, economically built and economically administered, with suitable buildings for all the different classes, sufficiently separated to prevent mutual annoyance, with a hospital department for recent cases and land and appliances sufficient to give employment to all capable of working.

BETTER CARE FOR THE CHRONIC INSANE.

By H. A. GILMAN, M. D.,

Medical Superintendent, Iowa Hospital for the Insane, Mt. Pleasant, Iowa.*

This question has been so thoroughly discussed, and in some States, notably, New York, settled, so far as the system of care is concerned, that it may seem to you gentlemen who have reached that millennial condition, as threshing old straw, but there are other phases of the subject which have not yet reached perfection, and these will bear discussion.

When I inform you that the experience you have, some of you, passed through in observing the wretched failure of county care of the chronic insane, and over a period of many years contended for deliverance for those who cannot speak for themselves, and by your efforts won the victory at last, it may seem incomprehensible that in the State of Iowa with only two per cent. of illiteracy, with no bonded debt, and with but two and eight-tenths mills tax levy for all State purposes, there is now being nurtured this county system, and several counties have already constructed within from two to five years county asylums, quite pretentious in architecture, and at a cost of many thousands of dollars, the principal excuse being that they could more cheaply care for this class than at the rate per capita at

*Dr. Gilman, the author of the foregoing paper, and vice-president-elect of this Association, died suddenly on the 9th of October, 1898. Full of good deeds and generous impulses, his death came as a personal affliction to all who knew him. He passed away deeply mourned by his medical associates, and by his patients, whose well-being was the object of his constant solicitude. As he hoped to be, he was, actively engaged in his chosen work to the very last. His was truly the "consecrated life" of which he speaks, and the noble sentiments which inspired him are well illustrated in this, probably his last, contribution to the care of the insane, whose welfare was so near to his heart and to whose comfort he gave his best efforts and highest thought.—C. B. B.

the State hospitals, per day, of forty-six and one-half cents, this including board, clothing, bedding, furnishings, such as carpets, rugs, curtains and fixtures, table linen and all table furnishings, towels, etc., medical attendance, drugs and medicines, salaries and wages of all officers, nurses and other employes, fuel, light, laundry, amusements and entertainments, and minor repairs. It is demonstrated, these advocates of this system say, that the expense is but twenty-five cents a day or less at the county asylums. You gentlemen all know what this quality of care means; simply "keeping" the unfortunate invalid until the final summons brings a coveted release. In meeting and attempting to controvert the argument of the advocates of this plan, we have perhaps, in explanation, been too apologetic, fearing that in some places we might be considered in advance of public opinion, so far as the expenditure of public money is concerned. We have desired to convince and not offend by too aggressive expression of our opinions in this direction; to obtain a hearing for our ideas and not stir up angry opposition in those who do not accept them. The last general assembly of our State reduced the per capita to thirty-nine and one-half cents per day, ostensibly to meet the argument of county supervisors that their chronic insane can be cared for by the counties so much less than by the State, and, consequently, they advocate the county system, and the construction of these county asylums. It seems to me that to every thoughtful, humane man, be he professional or layman, this must appear a backward step toward that period when pathology was not recognized as the basal cause of all mental unsoundness and obliquity; towards that era when the unfortunate victim of brain disease was thought to be possessed with devils. The county house or asylum, even the best arranged, has appliances only for detention and custodial care, with comparatively little or no medical attention, and no classification, the noisy, turbulent and untidy being cared for in the same day rooms and dormitories with the quiet, orderly and neat patients. It is not strange that those not entirely devoid of mind should in despair, when transferred to such accommodations, exclaim, "All hope abandon ye who enter here." In a few of the more recently constructed edifices there has been an attempt to improve this care by humane and conscientious boards and officials, but the great aggregation of

them are still unfit for the residence or home of the afflicted, and some are actually not in keeping with the accommodations now provided for our fine herds of cattle and blooded horses. The manager is selected because he is the lowest bidder, and if any medical attendance is provided the same rule of selection obtains, and, as a result, someone entirely ignorant of the proper management of the insane is chosen to be responsible for those who, perhaps, have been educated, refined and of sensitive dispositions, untrained and unaccustomed to the rough experiences and manner of life thus provided. The doctor may visit once a week, or month, or whenever it is deemed necessary by the manager, who knows little or nothing of the delicate organization of the human body or its needs. There are no trained nurses to minister to the sick in body and mind, or soothe the last moments of the dying by tender ministrations and words of comfort and Christian consolation, because, forsooth, this would result in an expense that would do away with the much vaunted economy of such a system. I have witnessed scenes in such places (we cannot call them asylums) that would bring the blush of shame to our boasted civilization, and had rehearsed by persons in charge, such sentiments of cruelty as would do justice to a barbarian, and stir the hot blood in every sympathetic, philanthropic heart. "Can these things be in our State," said a noble soul, a newspaper man, some years ago, with tears rolling down his cheeks, "and I never have known it!" "Go and see for yourself" was the response, and, as a result, his splendid ability and great sympathetic soul advocated full accommodation and care, under State supervision, with all that meant, as long as he was a resident of the State. We need more such philanthropists, who are willing, now, to sacrifice temporary popularity in the locality where this gangrene is burrowing deepest, who are willing to acknowledge their ignorance and inform themselves of the situation right at their own door, and use all their God-given powers, to secure the remedy, which is the placing of all the insane of a commonwealth under State care, and supervision, with proper medical attention and the ministration of nurses, educated for the purpose. It seems that the object lesson of so many States which have attempted the experiment of county care, and the wretched failure, loss and suffering marking the trial of their experiment, would bring wisdom

in counsel, philanthropy in action and economy as well as humanity in results, to those States now agitating the question. It was not the purpose, however, to enlarge upon this portion of the subject under discussion, as most of the members of this Association have been familiar with the subject as it has been viewed and disposed of in the States most advanced in the care of their insane, and many of you have for years in the interest of the insane fought the ground over, and had a continuous struggle, such as we are passing through.

There is another phase of this question of "Better Care for the Chronic Insane" which comes closer home and may be felt within the hospitals with which we are connected. In some measure we, as superintendents, are responsible, and with the parsimony of the legislative power lies the remainder of the accountability for this, namely, the lack of individual treatment of this class. There is a large number where there has not been sufficient destruction of cell structure or brain tissue to largely impair the mental operations, where there is a stay in the progress of the disease, and yet it does not seem to be the best thing for the patient to discharge him and throw him upon his own resources. There are many of this class, and thus grading down to complete dementia, that by proper, well directed care may be entirely cured, or very materially improved, so as to be able to live at home, comfortable and useful lives. Is it reasonable that any of us would say that placing under the care of one physician from two to three hundred of such cases is such attention or individualization as they need, or that will bring the best results? I think not, and yet we are forced to that by the paucity of funds which are allowed for the salaries of physicians and nurses. It may be that a good many of these patients do not require much medicine, but the actual administration of drugs is a small part of treatment of such cases. The personal attention of the physician, studying the case, drawing them into conversation, noticing the character of their delusions, if they have any, the diversion of the mind into a healthy channel, the allaying excitement, if it exist from these delusions, cheering the despondent by words of comfort, stimulating to action the stupid and cases of mild dementia. All the entertainments and exercises of like character are helps in this direction, but such individualization as would seem more efficient is where and

when there is an opportunity to thoroughly and conscientiously study the individual patient, and thus endeavor to see that labor or entertainment is best adapted for the case in illustration; if labor see that it is properly prescribed, and it should be administered as carefully as any dose of medicine; if other recreation the same rule applies. This cannot be done to the degree that is at all satisfactory to superintendents, without a larger staff, and it ought not to be considered creditable or satisfactory to the physician who is thus hedged about. The same thing applies to the lack of nurses for such tedious work, and it does become tedious unless there is a consecrated life in the helper and true charity for the unfortunate victim in question. If we could have an assistant physician for every hundred, or better, fifty patients, and a nurse for every eight or ten patients, instead of twenty-five, we could treat with favorable issue many more and make more comfortable a large number now not having as I believe the individual care and attention necessary for the best possible results.

The rapid strides made in the past decade in the care and treatment of the insane should be recognized by the law-making power of every State, and ample appropriations made for all the necessary appliances to carry forward the new method involved for the betterment of the condition of the insane, acute or chronic. Scientific education is rapidly crowding the newly discovered enunciations of the investigator, and if we would keep up with the procession and accomplish the greatest possible good to the greatest number, we must as States and individuals recognize the new daylight that has dawned upon us, prepare equipments, and be armed for our work, with all that modern science presents for our aid and development. County care is not in this line of progress, neither the lack of individual care on account of the paucity of physicians and nurses, nor the parsimony of legislators in providing the necessary means for advanced ideas in every direction, as applied to the treatment of the insane. As in all other diseases the acute case may need the close attention of physician and nurse temporarily, but the chronic case demands the steady hand and helpful care of the nurse and physician month after month, and sometimes year after year—and then recovery at last. We must have as our motto, "While there is life there is hope," and in

those cases where there is present no organic disease remarkable results after years of dementia have been observed. There is a class, however, from whom the blight of disease cannot be lifted, and while those restored go home to friends and their pursuits, these remain from year to year with the cloud still hanging over them. Here duty and humanity call upon us to cause a rift in the clouds, letting the sunshine through, speaking loving words of cheer, diverting to pleasant thoughts and comforting the despondent and weary hearted. The care of this class calls for even greater sacrifice because of the hopelessness and discouragement existing, but, this is Christlike humanity that we consecrate our lives so that all these conditions may be met by us and the remedy applied.

THE WISCONSIN COUNTY CARE SYSTEM.

By W. B. LYMAN, M. D.,

Medical Superintendent, Wisconsin State Hospital for Insane, Mendota, Wis.

After considerable hesitation and a personal interview, our worthy Secretary consented to have presented to you at this time a short paper on the "Wisconsin System of Caring for the Insane." This hesitation I found to be due to the fact that his State, as well as others, was already being more or less embarrassed by dilatory tactics due to the ardor and enthusiasm of some in authority pressing to the front our system, with the object in view of its adoption in the several States, and pending its consideration it is difficult to get appropriations necessary to enlarge and further improve the now existing State hospitals and asylums.

This condition of affairs I am aware exists and the Wisconsin people want to be understood right here as not wanting to stand in the way of anybody nor do they want to too strongly insist that theirs is the only way that the insane can be conscientiously, comfortably and economically cared for; nor do we insist that the method now existing with us is adapted to existing conditions in all other States. We claim this in brief: That Wisconsin has a system different from any other State in the Union; that its results are to its people and to its patients highly satisfactory, and that it has solved for us the problem of providing for *all* of our insane as necessity required—which has not been done elsewhere. It has passed the stage of experiment and, while much is lacking to bring it up to the high standard of perfection of which it is susceptible, yet its existence for eighteen years or more demonstrates its practicability, its usefulness and its superiority.

To reach a proper understanding of the conditions of its inception I have to admit the fact that Wisconsin has not always given its insane such humane care. The poorhouses and jails were used as corrals for the unfortunates and the two small State institutions were crowded to the extreme. The floors and halls were used for beds and a normal capacity of say three hundred and fifty was used to care for five hundred and fifty or six hundred. At this time our worthy board of charities made their memory famous by devising our present system.

You note that we had only two State insane asylums and they could be built to-day for eight hundred thousand dollars, instead of several millions invested as many States have to-day. The financial arrangement upon which the system is founded is very simple, and apparently just to all; the only apparent injustice is that, were the State hospitals supported from a fund raised by direct tax instead of a fund raised by taxing corporate interests, it might throw a slightly heavier burden upon the sparsely settled counties than their proportion of insane would warrant. It is this, briefly:

First.—That for each insane patient in the State hospitals having a legal residence, the county in which he or she resides shall pay towards maintenance one dollar and a half per week and furnish clothing not to exceed forty dollars per year.

Second.—That for each inmate of the county asylums, the State shall pay the county where they are cared for one dollar and a half per week and for non-resident or so-called State at large insane, shall pay said county three dollars per week and furnish clothing.

Third.—That for each inmate of a county asylum, belonging to some other county, such county shall pay the care-taking county one dollar and a half per week and furnish clothing.

Thus it will be seen that the county asylums realize three dollars, directly or indirectly, for each patient.

The counties care for the patients at an average cost of about one dollar and seventy-five cents per week, which leaves one dollar and a quarter to be placed to its credit, which in asylums of average capacity—say one hundred and twenty-five—shows about eight thousand dollars a year, a very promising stimulus to investment, since the original outlay need not be more than sixty thousand dollars, or about four hundred and eighty dol-

lars per capita. Those asylums having a good working class of patients and plenty of good soil can raise so large a proportion of the subsistence that some are able to keep their patients with an outlay of only one dollar and ten cents per week per capita. Others have to expend over two dollars, having new, unbroken timber land, or soil that is not productive.

The per capita cost in the State hospitals is from four dollars and a half to six dollars under existing arrangements, since the large amount of general repairs and improvements is taken from the general fund. This cost, over and above the one dollar and a half received from the counties, is made up by legislative appropriation. The average cost of caring for the insane of the State is about two dollars and a half per capita and the State has already invested a little over a million dollars in the two State hospitals.

With these few words I leave the financial affairs and take up next the system of commitment and transfer of patients.

While our statutes allow county judges to commit directly to the county asylums it is seldom done and should, perchance, an acutely insane person be sent to a county asylum the board of control have the power to transfer to the State hospitals. In several instances homicidal patients have been transferred back to the hospitals for safe keeping and this brings us face to face with the fact that a lack of the system is a place to care for chronic, homicidal and disturbed, noisy patients. Our State hospitals are still burdened with insane criminals, it being contrary to law to send them to asylums. I have no doubt but that the present agitation will soon remedy this defect, as it is becoming burdensome to keep them in the hospitals, the disturbed wards being constantly overcrowded. The State hospitals are really clearing houses and we necessarily have a proportion of chronic admissions; yet the desire of the board to submit first every patient to hospital treatment before sending him to a chronic asylum prompts them to this method. Personally, I feel that it is a mistake to burden the hospitals with these chronics, for, while any one may remain only a short time, yet we have them always with us. It is a simple matter for the general practitioner to determine whether a case is acute or chronic and his judgment should be sufficient to determine where the case belongs. Epileptics are still cared for with the

insane, but there is now in process of erection a "Home for Epileptics" at Chippewa Falls that eventually will care for them.

Transfer of any patient from a State hospital to a county asylum is made only on recommendation of the superintendent that such case is a chronic one and not to be further benefited by hospital care. The number treated, of new cases, each year is thus very large at each State hospital, being at the State Hospital at Mendota over four hundred annually, nearly as many as are received in the regular course of events at Kankakee, with its two thousand two hundred patients. When patients that are chronic when committed are sent directly to county asylums the hospitals will be much benefited and approach nearer the work for which they are designed.

We have nothing new in hospital work to show you in Wisconsin. In fact, old lines are followed pretty closely in Mendota with, I believe, as favorable results as elsewhere; in fact, we are lacking in Turkish bath facilities and means for hydrotherapeutics, which we must soon have. It is asserted that our increase of chronics in proportion to our new cases in Wisconsin is less than in other States; that we cure more cases. Whether this is true I am not prepared to say. Very many cases are taken home when much improved and our State laws now do not allow us to discharge patients as recovered but only on parole, and they are considered sane only after two years unless declared so by the court from which they were committed or other court of record or the State board of control acting as commission in lunacy. In other words, discharge from the hospital as recovered does not carry the rights of citizenship without adjudication by the court.

One of our hospitals has a general dining room; the other, the ward dining rooms, and both are satisfied therewith. In fact, they present little new except the scarcity of chronic patients.

The more modern county asylums are very much neater in appearance than some of the older ones and there is much difference presented in the liberties that are given the inmates. As a rule all the doors are unlocked in the daytime and seventy per cent. of the patients go out and in at will. The other thirty per cent. are the physically weak and untidy or those

that are under direct supervision of the attendants. There are many patients under this arrangement that are equally as valuable as attendants as those employed, needing only direction; they are with a little pains made very efficient and, of course, all the labor on the farm and garden is done by the patients. In the summer all are employed but in the winter it is harder to find work. Personally, I think, however, that the patients are much more occupied here than in any large State institution. They are allowed privileges that make life a kind of free and easy. If a woman wants to sit on the floor and patch she is allowed to do so. On one of my visits recently I found a patient in the attic with his pants off sewing on a button. In the basement I found another nailing a lift on the heel of his shoe, another sewing together a broken harness, another grinding an axe, etc. Each is allowed to do for himself, and, while the tidiness may suffer at times, yet the patients are certainly happier than when they are made to feel more authority. They are fed here as well as in detached wards of the larger State hospitals, having the necessaries but not the luxuries of life on the table; but most of the furniture is better than in ordinary detached wards.

Wisconsin has fewer deaths from phthisis amongst the insane than any other State in the Union. It is folly to ask these people to work or occupy themselves at distasteful labor. Wiring brushes or tying brooms is humdrum to the sane mind; a man would have to be beside himself to do it from choice. These people on farms have the surroundings of their former life and much more naturally occupy themselves here than they would in a workshop. The institution is visited at intervals by the supervising physician who is in call by telephone in all instances, but is directly under the supervision of a layman, a resident of the community, or possibly from some State hospital. Every county pays enough to the superintendent and his wife and the physician, however, to employ a physician as superintendent if it were deemed more expedient. The patients, however, as it is now, nine times in ten are treated when sick by the old family physician, which is very satisfactory. Being near home they are visited very frequently and abuse or neglect is much quicker detected here than it could be in the large institutions. The community may be German, French or Scandinavian and so is the population of the home county asylum. In

one German community I know the superintendent gives the patients beer weekly and in another patients are often, when on parole down town, given a nickel to buy a glass of beer, their national drink.

The patients are fed as well and housed much better than in any of the lumber camps or mill boarding houses in the northern part of the State where many came from. The dietary is inspected by the board on its quarterly visits and a bill of fare filed in the board's office. The buildings are well ventilated as a rule and heated by steam. The hand laundry and sewing room and kitchen keep most of the women occupied that can be interested. The buildings are one of the sights to show local visitors and each county prides itself on its attainments and every resident, from the attorney and doctors and preachers to the drayman, always says when asked, "Why, that's fine; well cared for." Everybody is satisfied; to criticise it is to leave a stigma on your name.

And now a moment's consideration of the saving feature of our system, and I will also speak of the dangers attached thereto.

The State board of control, a paid board appointed by the governor, has the full and complete supervision of every patient cared for in any of these institutions. The statute requires that each county asylum shall be visited once in three months and the State hospitals once each month. This board has power to absolutely direct the management and to transfer patients from institutions if too crowded, or to withhold State aid if the patients are too meagerly cared for in the county asylums. This is where our system differs from the so-called county care system and it is the main support to it. Every set of plans for new county asylums must be approved by this board and permission obtained to build; the size or capacity is dictated by them and the future management as well. The personnel of this body is all important to the success of the system—and it is directly responsible, with the power vested in it, for the condition and management of any one of the many county asylums. Politics may be carried so far that it will affect even this work and it is certainly essential that the board should be non-political to accomplish the most. The State of Wisconsin is fortunate that since the board is not a non-political one it has not suffered

on this account because of the board being made up of good, conscientious individuals taking rather a charitable view of their work. It is also fortunate to have had such good individuality on the board for the small salary of two thousand dollars per annum. Men with the necessary talent cannot usually be found for this money. An ideal board would be one composed of men of high philanthropic ideas; non-political but, perhaps, politic men of good physique, capable of enormous work and broad ideas—well paid.

I have thus tried to give you ideas from an unprejudiced standpoint; have pointed the defects of our system that now exist and the remedy. Have admitted the premises on which the Wisconsin system is founded are not existing now in all other States and have tried to be impartial; and, withal, I want to add that we are proud of our work in Wisconsin and that we feel we have more nearly solved the vexatious problems connected with our work than any other State.

The special advantages gained that cannot be disputed are:

That the existing financial arrangement acts as a stimulus to each county to provide a home or asylum for its unfortunates and has resulted in effecting a condition that exists in no other State in the Union, namely, plenty of room in a suitable institution to care for all of our indigent insane, and the tendency is to build even faster than the requirements.

That insane persons are not far removed from their immediate friends during the long years of confinement and supervision necessary to the care of chronic cases.

That the public are much better educated as to their requirements, their nature, difficulties, etc., by being brought face to face with them in the frequent visits prompted by the love of a once fond child or parent and made possible by the lessened expense for travel necessary.

That under this system persistent abuse is impossible without being found out.

That a much larger number of insane lives are made, in a measure, useful to the good of the commonwealth by the opportunities given here to care for each other, and to assist in the financial support by the earnings made possible on the numerous farms.

That much less restriction of privilege is found necessary in these smaller institutions than in the larger—the patients, therefore, living in an environment and atmosphere of home and rural life not possible otherwise.

That it is possible for the relatives of patients to frequently keep them at home for protracted periods when provision is made that they can be returned without expense to the county asylum when necessary.

Thus having thwarted nature in her attempt at destruction of life in the insane suicidal melancholiac, we have gone one step further and have rendered that life useful, in a measure, in making it possible to be partially self-supporting and to aid in the support of other unfortunates so far as is consistent with the measured mental decay and death. And I feel free to say that insane lives can never be utilized in greater degree towards furthering the great end of the race than is possible under the Wisconsin system when it shall have been fully worked out to the perfection of which it is capable.

OCCUPATION IN THE TREATMENT OF THE INSANE.

By FRANK CRAMPTON HOYT, M. D.,

Superintendent Iowa Hospital for the Insane, Clarinda, Iowa.

Among the numerous material and mental methods of treating the insane, occupation is by no means the most recent. It has long passed the experimental stage and that it has not been universally adopted is certainly not due to any doubt as to its efficacy. As far back as 1844 employment was recognized as a valuable aid in the restoration of the insane and was in a crude manner introduced at the Utica Asylum. In a description of this institution which appeared in the *Journal of Insanity* for July, 1844, the editor says, "*The patients, in good weather, perform much labor on the farm and in the garden, by which they are grateful and improved. Some also work in the joiner's shop, some make and repair mattresses, and several work at making and mending shoes. The women make clothing, bedding and do the ironing, and assist in the various household duties. They also manufacture many useful and fancy articles for sale.*" This report, though written one-half a century ago, will be found not unlike many reports emanating from the hospitals of this country in the year 1898. Schools for the insane, which by some have been regarded as of recent origin, and for the introduction of which I fear some contemporaneous superintendents have been tempted to claim originality, were in use in European institutions at this remote date. In the report of the Royal Hospital of Bethlem, mention is made of these schools as follows: "*In some of the best conducted asylums in the country, schools have been established with the best possible results; faculties which have been long dormant have been aroused, the memory improved, fresh objects of interest created for fixing the wandering mind, and luring it away from its distempered faculties.*"

At the annual meeting of our parent Association of Medical Superintendents, held in Providence, Rhode Island, in 1862, at which was present the venerable Dr. Curwen, an able paper describing the employment of the insane as practiced in British asylums was read by Dr. Edward Jarvis of Dorchester, Massachusetts. In this paper the author gives a detailed statement of the industries carried on in the British asylums, and makes an eloquent plea for the more general introduction of this method in the United States. In the annual report from the Butler Hospital for the Insane at Providence, Rhode Island, for 1865 Dr. Ray writes extensively on this subject. In later years several articles of like character were written and served to keep alive interest in this important subject.

Notwithstanding that for half a century the superintendents of our American hospitals for the insane have had their attention called repeatedly to the "occupation treatment of the insane," the fact remains that many, and, permit me to say, far too many, can report no greater diversity of employment, nor more methodical application of this means of treatment, than was done fifty years ago.

That this state of affairs exists is not due, as I have said before, to any serious doubt as to the value of this method, but rather to an imperfect appreciation of its inestimable value as a means of treatment, regardless of its economic features. Other factors, such as imperfect appliances, insufficient appropriations the disinclination of patients to work, the fact that the patient knows that he cannot be compelled to work, and, most important of all, the lack of tact on the part of the medical officers of hospitals, enter into the arguments of those who would defend their inactivity in this direction, to-day, as they did many years ago. To those who have given the subject practical study none of these objections appear insurmountable and many of them seem positively trivial. The rock upon which are wrecked many of the newly launched ships of industrial treatment is that of Economy. "Does it pay?" is the question most frequently asked by the visitors to our industrial department, and it is this question of profit and loss which is so prominent a feature in many discussions of this subject. As well might one ask does it pay to administer drugs, use the knife, provide skilled nurses and the various paraphernalia of a well organized

hospital. Industrial treatment of the insane does pay. When properly applied it pays enormous profits, profits which though they may not be visible on the credit side of the ledger, are yet in evidence in the wards of the hospital. The profit is to be readily found in the absence of large numbers of half or wholly demented patients lined up along the walls of the wards; in the healthy, cheerful faces of the patients in the quiet wards, the freedom from violence, destruction and vicious habits, so common in many hospitals.

In comparison with such benefits as these, of what importance are the few dollars expended for tools, materials, and instructors. Idleness is a curse alike to the sane and to the insane, and leaves its trail of mental and physical degradation wherever it goes. Let us not lay the flattering unction to our souls that we are progressive alienists, because we have abolished the padded cell, the chain and irons of the past, while we are still doing little more than to feed, water, bed and physic patients. The time is not far distant when the old cruel methods of care for the insane will be no less opprobrious, than the presence day after day and year after year of hundreds and thousands of insane in crowded wards, over whose minds the impenetrable cloud of dementia is fast settling because of our neglect. The universal specific or cure-all is yet undiscovered and so also is a universal remedy for insanity.

Employment, being a method of treatment, is not applicable empirically to all forms of mental disease, and must be used judiciously and scientifically. It must be properly selected and applied to individual cases, and it would be the height of stupidity to give every patient physically able to work an unrestricted and unselected amount of labor in a routine way.

Employment is usually inapplicable in cases of great mental excitement, or in organic diseases of the brain, in the early stage of primary mental deterioration, in neurasthenia, and in all cases in which mental and physical rest is indicated. Employment is particularly valuable in hastening convalescence after the subsidence of the acute stages of mania, so, also, in melancholia with or without delusions. It prevents introspection, causes the mind to assume new lines of thought and aids the association of ideas. The delusions and other abnormal mental processes are crowded out and ultimately dispelled by the sub-

stitution of normal mental processes. The motor excitement and restlessness find an outlet in methodical employment and the mind and body are again taught to act in unison. But it is not in recoverable cases alone that splendid results are obtained by this method of treatment. If there is any one means which stands forth prominently as a preventative of secondary mental deterioration and terminal dementia, it is employment. If we are to rescue our patients from the deplorable condition of dementia, it must be by the methodical application of mental and physical training furnished by occupation. By this means many cases may be changed from untidy, destructive and vicious charges, to quiet, industrious and happy members of the hospital family, and not infrequently the mental improvement has been so positive that the patient has been returned to his home where he becomes a useful and productive citizen.

As previously stated, there should be an individualization of the patients and the class of employment selected, which is in keeping with his mental and physical condition. After he has shown a sufficient degree of proficiency in this line of work he should be advanced step by step in the industrial scale, until he has passed from the simplest form of work to the highest of which he is capable. The interest of the patient in his work should be carefully guarded, and when he loses this interest, his occupation should be changed. Because he is a good printer or shoemaker is no excuse for keeping him so employed when he has ceased to take an interest in it. The time has arrived when he should be taught another line of work, and his interest awakened in another direction. The selection of occupation for the patient must not be made by the attendant, but by the physician. Many patients are injured by the selfish attendant or foreman, who will keep them in a certain department because they are "good help," or retain them on the wards to perform duties which should be performed by the attendant.

Many patients dislike ward work, farm labor or kitchen work, and will refuse to engage in it, while they will gladly employ their time in other directions.

Machinery is almost invariably a source of interest to patients and evidently appeals to their natural ingenuity. The turning lathes and scroll saws, the presses and sewing machines, will never lack for operators so long as some latitude is given the

patient in the style of his work. The patient should be permitted to exercise his own ingenuity, controlling him just enough to make sure that nothing is done which has the stamp of abnormal mental action upon it. An encouraging word, or a well paid compliment from the medical officer, will do more to stimulate the worker to renewed effort than any reward with which I am familiar.

A hospital practice which is most detrimental to the employment system is the paroling of patients. The parole system with open ward doors is the manufactory of shabby-genteel loafers, who do themselves no good and are usually an intolerable nuisance about the hospital. Idleness is here found in its perfected state and is ruinous to patient and hospital alike. The privileges of the grounds, open door wards, etc., should be granted to those who earn it, and the rule should be "no work, no especial privileges." Our open wards are not loafers' resorts, but the homes of a healthy, cheerful body of working men, to whom the ward with its grate fire, newspapers, music, books and games is a social club, a fitting end to an honest day's labor, and assurance of refreshing, drugless sleep.

I have spoken of occupation as a method of treatment, or as a remedy if you please, and will conclude this paper by treating the subject after the manner of the therapist.

OCCUPATION—INDUSTRIAL EMPLOYMENT OF THE INSANE.

It may be defined as the systematic administration of physical and mental exercise, in such quantities and in such vehicles as the individual case demands.

Its physiological action is to promote digestion, increase the appetite, assist the circulation of the blood, stimulate the excretory functions of the skin, and strengthen the entire muscular system. It is a valuable aid in the production of normal sleep, and will often relieve insomnia of the most stubborn character.

Occupation has a peculiar mental effect, serving to stimulate perception, fix attention, aid memory, train the mind to associate concept with concept by the process of reasoning, dispel delusions, by substituting a healthy mental action for an abnormal one, and most important of all prevents mental deterioration which is the natural sequence of mental inactivity.

The remedy should be given in small doses at the beginning and gradually increased until the full physiological action is obtained. It is disagreeable to some patients, but by administering it in a variety of forms, and by the exercise of tact on the part of the physician and nurse, these objections may soon be overcome. It has been observed that many patients will form a "habit," but as no ill effects result from its continued use, no precautions in this direction are necessary. It is found to be of advantage to combine it with another valuable agent known as "amusement." The remedy under consideration is capable of causing injury, when prescribed in unsuitable cases and in improper forms or in overdoses.

When used, as it should be, scientifically, it is a remarkably valuable remedy in the treatment of insanity and is well worth a trial in every insane hospital in the land.

DISCUSSION.

DR. WOODSON: First, I desire to thank Dr. Russell for his facetious, rhetorical, patriotic and oratorical paper, and I might add that they are still calling for volunteers down at the barracks. I have been very much gratified with these papers and feel like adding a few words in the way of general approval. So far as caring for the insane or the better care of the chronic insane is concerned, I am very strongly in favor of a well regulated hospital. I am at a loss to understand how it is possible to care for a number of persons in numbers as small as forty or fifty or even a hundred at a less expense or in a better way than five hundred can be cared for. I am also at a loss to understand how it is possible to care for the chronic insane as well when they are in the care of a layman and a physician is called only when in his judgment it is necessary. It is unquestionable that persons are cured after being insane six or seven years. It is true we do not have as many recoveries after the first year as before the end of the first year. It is to me as ridiculous to say that we can care for the insane in a small institution as it is to say that a small, old-time butcher can do his work better than an Armour or a Swift. Instead of having open doors in the daytime we have open doors at night. It was the custom of our institution and many others to have night watches or night nurses make rounds every half

hour or every hour, and ordinarily the night nurse had under his or her care from one hundred and fifty to three hundred patients. The first day of January we put on thirty night nurses. We have a night nurse for every ward and sometimes two night nurses to a ward. With a population of one hundred and fifty patients we will not average ten closed doors a night. We might have to close a door to-night but can leave it open to-morrow. We have abolished the abominable chamber. The night nurses are quiet in the wards but vigilant and watchful, walking in felt shoes. A strip of carpet is laid down in the hall so that the patients can go out without any trouble. By so doing we have almost abolished the use of hypnotics. As far as employment is concerned, that is a pet theme of mine. I do not claim any originality but I do claim to employ as many in proportion as are employed anywhere in the country. Our population comes largely from the rural districts. There is nothing more conducive to the cure of the insane or nervous patient than an abundance of fresh air, sunshine and sleep. Labor in the open air associated with the sunshine brings enough fatigue to give the patient an appetite and he does sleep. We employ thirty or forty per cent. of our patients when the weather will permit, some in the berry patches, some in the orchard, a number in the barn, some in the brick-yards, carpenter shop, on the roads and lawns, and the females are employed in nursing and other ways which are suitable to them. We find that when the patients are employed, as Dr. Hoyt has so correctly stated, it retards the departure into dementia. We take a patient in his mental enfeeblement, when in many instances he has moved around as an automaton, we give him a wheelbarrow or a hoe or rake and he seems to wake up. At any rate it seems to retard the departure into dementia and it does seem to help after they have reached that stage. I cannot understand why it can be better to care for these patients in small institutions than in large ones. Some counties in this State have quite large institutions. Without reflecting upon the institution for the acute cases in this city, I understand the institution for the chronic insane is in a deplorable condition. I know that is true in the second and third counties of this State. We have found out that abuses have more frequently existed in those institutions than in any other institutions.

Not long ago a patient was taken from one of the asylums to an almshouse up in the State. The keeper of the almshouse while visiting the institution to get the acute patient was asked how he got along with his patient and he said he was very vicious for a time until he knocked him down a time or two and then he gave him no more trouble. Another said a patient was quite troublesome until he slapped his jaws and then he gave him no further trouble. People are inclined to look upon that kind of treatment in an almshouse with less disapproval, although I am not setting them up against the asylums. They are not to be classified that way.

DR. BURE: We have heard of the Wisconsin "system" for years, but the buildings in use in previous years were poor-houses merely and the only satisfactory and at all creditable ones are of very recent construction. Indications do not point to any particular plan thought out from the beginning. Some of the newer buildings are quite comfortable. The majority of them, however, that I have visited, and I recently made a trip to Wisconsin for the purpose of seeing the institutions, were old, not of a high class, more or less uncomfortable and not such as the people of Michigan would be satisfied with for the care of their chronic insane, I am sure. That the people of Wisconsin are, as a rule, satisfied with them, is, I think, true. I heard very little complaint; I heard very little criticism. As to the statement of Mr. Heg in his paper, which was alluded to by Dr. Eastman this morning, that the Wisconsin system was based on the principles of "economy and humanity," it seemed to me that there was more of the former, if you count reduction in the outlay of money economy, than of the latter, humanity. The arguments in favor of the county asylum system have been very clearly put before you by Dr. Eastman and Dr. Lyman. The one which Dr. Lyman lays a good deal of stress upon is that of employment. I visited these institutions in the winter time, and although I visited them at all times of the day, morning, afternoon and evening, I saw very little effort to employ the patients. I saw during the daytime few male patients out of doors and no female patients (the weather was bright though cold). To the inquiry, "Have your patients been out to-day?" I had almost invariably the reply, "No, not to-day." "What do you do to interest your patients?" I asked at one place.

"Well, there is not much to interest them now; in the summer they work out of doors, but now there are only the chores and such work." They were apathetic and cheerless and it seemed to me, unhappy. In this particular institution, there was not a magazine, book or newspaper. I do not remember seeing a picture and there was nothing to attract the attention or change the dreary monotony of the life of the patient. Quite a bright attendant showed me about and I asked him, "Don't the patients deteriorate under these conditions?" "Well, perhaps they do," he said. I asked him if he had any illustrations in mind. "Well," he said, "there is a teacher here with whom I used to enjoy talking very much, but now he has sunk to the level of the rest." I said, "Isn't that the tendency?" He replied, "Well, I guess it is. It would be the tendency with sane people, would it not?" This institution, containing fifty-eight male patients the day I went there, had fifteen cases of goitre. The physician in charge attributed the goitre to lack of oxygen, but why there should be lack of oxygen with patients leading an open air life, under such natural conditions as claimed, I do not know. I was shown through the female wards, but saw no attendants. I asked where the attendants were. They said, "Oh, the patients get along all right." Coming out I saw in the centre building a woman attendant sewing. It seems she was in nominal care of the patients. She said that she could hear them through the wall and there was no trouble anyway. But the recollection of a black eye among the patients was in my mind when she said there was "no trouble." It is claimed that nearness to home is an advantage in the care of these patients. In the best institution, not under medical management that I visited, presided over by a sincere, conscientious man, I was told that an epileptic patient, being somewhat irritated by the fact that he was so near home and was unable to go home, set out on a war of extermination. He struck out right and left, hoping the superintendent would discharge him. "Finally," the superintendent said, "I told him that I was going to put a stop to that, and I did. After giving him warning, when I saw a vigorous assault, I choked him until he gave up and he never did that again." I said, "You would not recommend that treatment would you?" "No, indeed," he said, "if there is any disciplining here I am going to do it myself." "Well,

that sort of thing you don't believe in do you?" "No, sir," he said, "I would get along with as little of that as I possibly could. What would you do under such circumstances?" I told him that I would have one or two attendants near the patient constantly to prevent his making assaults, but I would not choke a patient. But I realized to give such advice under the circumstances was like asking him to perform miracles, for he hadn't the help to use.

In one institution I was shown about by a very interesting elderly lady, bright, energetic and enthusiastic. She spoke freely about the establishment and made particular mention of the family life which patients enjoyed. I very much appreciated the pleasant spirit she showed. She stated that she had been there for so many years (I forget the number) and had never struck a patient. I said, "Of course you have not and you would not permit anybody else; you would not permit an employé to do this, would you?" "Well, if I knew an attendant was abusing patients I would be down on her," was the equivocal reply. But with the best of effort, what can you do with so few employés? Patients, even chronic patients that are usually quiet, do not take care of themselves. We know they need attention, medical attention, and some looking after. Those difficulties they must meet in the county asylums just as we do in the larger institutions. One institution I visited had no female night nurse at all. The superintendent said to me that it did not seem to be necessary. But I saw some rubber sheets on the beds and I saw one female patient in restraint. It must have been a difficult matter for her to give herself the care she needed at night. No doubt the patients do assist each other, as Dr. Lyman very properly said, but there is no system of night nursing prescribed by the central authority, or, if prescribed, it is not universally followed out.

DR. GORDON: That is not true, Doctor. Every institution should have a night nurse in each department. What you have referred to might have been only a single instance.

DR. BURE: Well, there is another instance still. At another institution I asked how many nightwatches they had. The reply was, "One. We have no female nurse, but the watchman goes through on the female side once in awhile. He is an old man." I thought it would be difficult for him, without a violation

of proprieties, to know whether a woman patient needed attention. In another institution I heard stories of abuse of patients, neglect of patients and trouble with patients that reminded me of the good old days in New York. Fortunately that condition of things has been remedied now. The superintendent of that institution I learned to think much of while I was with him. But were the faults remedied through the central authorities? Not as far as I could find out. There are two county trustees in connection with each institution. One recently appointed to this institution was a very far-seeing, upright man, one who had a feeling for the insane that comes from trouble in one's own home. He set about to reform abuses. He did it successfully. I don't wish to be sensational; it is far from my disposition to do that. I speak of this because the possibility of abuse creeping in with institutions so far removed from central authority has been spoken of by Dr. Eastman and Dr. Gilman and the opposite has been stated by Dr. Lyman as being true, that abuses would be more apt to be corrected in the smaller institutions. It depends much on the local standards, the local ideas of what is proper, what the insane are deserving of and what they should receive. A trustee told me that he did not wish to see per capita cost fall below two dollars. If it did it meant neglect or lack of care of the patient, lack of food or clothing. (The average cost is not far from one dollar and seventy-five cents, Dr. Lyman says.) County asylums have great difficulty in caring for epileptics, and noisy and untidy patients, and special buildings have been projected for these. There is lack of attendants. The general complaint was to this effect. As to amusements, in some institutions few or none were provided. In such I was told that patients did not care anything about amusements. In others, on the contrary, I was assured that the fortnightly dance was much enjoyed. The comfort of patients depends largely on the standards and ideals of the superintendent and his wife. In the popular mind, I believe the distinction is not made between the poorhouse and county asylum. As a rule both are located on the same ground. One driver said, "Are you the one that is going to the poorhouse?" I told him I was going to the county asylum. "Oh, yes," he said, "they are right near by; it is the same thing." They

meant the same thing to him. In some the superintendent has charge of the poorhouse and an assistant of the asylum.

The modern buildings are well ventilated, I should think, and heated by steam. One institution under medical management (the only one) in this and other particulars impressed me very favorably. That institution was under medical management with a per capita cost of two dollars and a half per week. The patients had a different air and looked more like the patients I had been accustomed to see in other institutions. One institution that I recall to mind had an annex for the untidy—and it was untidy, too, the odors being most disagreeable. It was heated by a drum-shaped stove, around which the patients congregated. I speak of this to emphasize the fact that it is the more recently constructed buildings which are at all creditable to the so-called system. Those which we hear most about and are pointed to with pride are of modern construction. When the system was introduced the good buildings were not in existence. Now as to the central board. There is wide range in per capita cost, and different standards of care obtained in different institutions. The central board has authority, in case it is dissatisfied with the care which patients are receiving, to transfer from one institution to another, but this is an authority, which I am told, has never been exercised. Dr. Lyman says that the board should be non-partisan, and it seems to me that better and more thorough work could be accomplished if it could be removed from political influences. Some members of the board, however, believe that being close to the administration, it should be strongly of the political faith of the executive. Dr. Lyman speaks of the insane lives being utilized to further the ends of the race. I do not know what he means by that. The employment I have prescribed for patients I have prescribed for the individual. I have prescribed, because it was curative, because it was beneficial, because it promoted the well being of the patient and benefited him and not because it benefited the race. But I know they do utilize insane lives. One institution I was told netted eleven thousand dollars in one year.

I don't know, Mr. President, that I have anything more to say. I know that many of the county superintendents in Wisconsin are good, conscientious men. I enjoyed meeting them. In some institutions of the better class reasonably good care is

taken of patients. But the system is not yet the ideal system which we have been led to believe. Some time or other it may be elaborated and made much better than it is now. When institutions are under medical management, when there are nurses enough to take care of the patients, when the hospital idea prevails and the motto is *humanity and incidental economy*, rather than "economy and humanity," then things will be better. But at present it is not what I had been led to expect from reading the fulsome praise of it by its partisans.

DR. BRUSH: I have read from time to time of the system of Wisconsin. I have read with considerable interest the report of the Secretary from the State where I believe they have adopted a system somewhat similar. I have always looked upon the matter as rather dangerous, because any backward step which we take, unless we retreat to close up lines and then charge on with more force and vigor, is always a dangerous step. It seems to me the step that has been taken in Wisconsin and the step that has been taken in Pennsylvania is placing the insane under county care, and we all know what an unfortunate system of political control in many States that means. It means the full meaning of the text at the head of many people's catechism, that to the victor belongs the spoils. I do not say that is true in Wisconsin or in Pennsylvania yet, but unless there is a very rapidly approaching millenium in political matters it will mean it in Wisconsin and in Pennsylvania and in any other State that undertakes it. We all know what a tremendous burden there is in New York, where they have taken out the insane from the almshouses and placed them under State control in the State hospitals, but I do not think anybody is ready to go back to the old system. I would much regret the time my native State should go back to the old system. In Maryland we have tried to accomplish something in the way of doing away with county almshouses. We were met and largely defeated in some of our efforts by the very rosy views which some of our friends had of the Wisconsin system. They chose to put in a good superintendent and let the doctor, who might live anywhere from five to fifteen miles from the almshouse, visit as the superintendent thought wise and necessary. Fortunately that did not meet the views of our legislators. Dr. Rohé was fortunate enough to get an appropriation for the hospital and we

hope that will solve the problem. But I think the character of the papers read here to-day shows the time has come when we should take the stand not only that a system of this kind that has any tendency to go back to the almshouse system is wrong, but we should take the further stand that any system which seeks to take this from a central authority is dangerous. It is dangerous in many ways. It is dangerous to progress. If every institution in the State has got to fit itself into the little mould which the board of commissioners or board of control or whatever you call it, has set, and has got to walk in the lines laid out, there will be no progress and no originality. I think from the character of the papers read here to-day it is quite evident how this Association feels and I hope the expression will be universal.

DR. RUNGE: I am personally interested in this question because I am just a few blocks away from an almshouse which contains many insane. I also held a very favorable opinion of the Wisconsin system. Last year I went as far as Denver and heard it spoken of; I learned that it would be the system adopted in Colorado if the number became sufficiently large. My opinion was changed by men who went there perfectly unprejudiced and I think this will cure me forever. For three years I have been standing in this city almost alone fighting the idea of eight hundred insane being taken care of in the almshouse. I have been taking the stand that there are no pauper insane, except the paupers who may go insane. I say that with a good deal of feeling because about six weeks ago the *Medical Record* of New York in an editorial, commented upon the governor's message, saying that the pauper insane are too well taken care of. Of course it may be the governor is in a measure right; there may be found too much gingerbread in some respects. But the insane are not paupers; they do not come to us because they want to. They are simply made to stay there, most of them in the face of a very vigorous protest, as we hear five or six hundred times a day in our wards. So I think the State is in duty bound to take care of these people better than of other individuals, possibly better than of the so-called physically sick that come to the almshouse or the hospital, because they come to us as unwilling victims. I speak feelingly because it comes right home to me. I have been fighting three years to

induce the legislature to abolish the care of the insane in almshouses. The word "insane" is really an abomination. I have recommended the adoption of the term "city sanitarium," omitting altogether the word "insane." Perhaps the folks in the country are not so afraid of this kind of an institution, but here we find they often come too late because they abominate the word "insane." Then, along the same line of reasoning as Dr. Brush's, I will say, away with all care of the insane by non-medical people! Some laymen may be found who are more able to take care of insane people than some medical men, for we do not hold that all medical men are capable of taking care of such an institution. But on the whole they would be much safer in the hands of a medical man than in the hands of a layman, who often is appointed for a political consideration. I understand Pennsylvania is not very far behind the south in that respect. It is, as Dr. Brush said, a step backward and we should as a body oppose any return to the old order of things. Another point of which I would like to speak is the occupation of patients. This is probably one of the most difficult problems and possibly one that occupies us most. I often doubt whether I am on the right road. We hear that those who get their patients from the agricultural regions find that their patients improve with work on the farm, in the fresh air and sunshine. Why, that is what they have done all their lives. We find they do less of it than usual while at the hospitals. We know that change of occupation is itself recreation. We do not always need music or a theatre or a lecture, but only a change of occupation. So I think that is really the good result of the farming work on the farming population, that they have got some recreation, they get some good books to read, they are in the hands of medical men who understand their needs and they foster such recreation. I suppose that is really the therapeutic agent and not the work itself, because that they have done excessively. Especially among women we hear of such work not infrequently as an accessory cause of insanity. In the west farming is much harder than in the east, and I would confess to you that if I were to be there five years I would be an inmate of my own institution.

Too often child-bearing is the only variety in the poor woman's life! The question has not yet been solved. The one

thing that stands in the way of all of us is that we have not sufficient help even in the best institutions to carry on a work which will reach each individual. When I look at the roster of some institutions I am surprised how they exist, because they have no restraint, no isolation, open wards and only one night-watch to three hundred insane. They do not tell us how they do it; I would like to learn. So I think the question is to get more employées. But the quantity is not all. How many of us have ideal attendants? We here in our municipal institution pay more than almost any other institution in the United States to the average attendant, and I know I have no reason to be very proud of them. On the male side I am not proud of the average, but I am hampered as we all are. Training schools will not overcome this, because training schools are not the same to us as they are to the other hospitals. I have been fighting for a training school here simply for the purpose of taking them out of political hands. It was a scheme! [Laughter.] But I think the chief thing is the disposition. That is something we have to look for in the nurse, still in the trained attendant or trained nurse of the insane the question of character and disposition stands foremost. I would rather take a man or woman as a nurse or attendant, with the proper disposition, and train them myself than to take a trained individual without those qualifications. I think there is no work more difficult than ours. I am at the head of an institution which is sometimes treated with a great deal of censure, and I am naturally opposed to municipal care or county care. State care is the only thing, but we must bring up the State care to the proper standard. Show me the superintendent, let me get acquainted with him, and I will tell you in a day what kind of an institution he has got. [Applause.]

DR. TOMLINSON: It seems to me that the gist of this whole question is, Shall the care of the insane be considered simply from its custodial aspect or from the medical point of view. If it is considered from the custodial standpoint, then I admit all that is claimed for the Wisconsin system. In other words, if it is simply a question of aggregating and caring for these people with the least expenditure of money, time and trouble, then that system will meet all the requirements. However, if it is a question of caring for the insane from a medical stand-

point and if it is true that insanity is the manifestation of disease, then the Wisconsin system does not meet the requirements at all. Neither do I believe that any body of laymen is competent to judge as to what is proper care for the insane any more than for any other class of sick people. The difficulty in all of our State institutions is not only the character of the buildings but their arrangement. Plans are altered, arranged and re-arranged, not to render the buildings more fit for the purpose, but according to the ideas of the architect as to the external appearance of the buildings, those of the lay board of managers as to the expense, and of the self-constituted philanthropists as to what is needed. Consequently everything is arranged from the standpoint of the chronic case, his clothing, housing and feeding. Hampered in this way we are put in charge of these institutions and expected to accomplish good results. We hear much of the care of the insane as sick people and of what is to be done for them; yet we are expected to accomplish these results with means only sufficient for simple custody. Until these facts are properly understood and considered, I do not think there will be any unanimity of opinion or progress toward the development of our institutions into real hospitals for the treatment of the insane and not simply for their detention.

In my own experience one of the greatest difficulties has been to interest even medical men, outside of those connected with the work, in the welfare of the insane. In my own State, in the medical societies, where I have tried to do what I could to interest the profession at large in the subject, what I had to say has been met often with indifference and at best only with a half hearted sympathy. They are willing and some of them prompt to criticise us for not doing better work and more of it, and to tell us how much better off the insane would be if they were under the care of the neurologist and the gynecologist, but they are not willing to help us to get the means to do the work they accuse us of not doing. Our philanthropists, too, do not try to educate public opinion to an appreciation of our needs. If they took half the trouble to induce the legislature to supply the facilities we should have that they do to criticise us for not doing what we cannot do for want of them, we would be much better off and our work more satisfactory.

There is one thing more I want to refer to before I sit down. We have been talking about reforms and I want to suggest one. There is a term in common use and I have heard it used this afternoon, which I think we ought to give up. It is correct and perfectly right to speak of animals as male and female when we want to designate their sex, but it seems to me to be just as accurate and in much better taste to speak of our patients as men and women. [Applause.] I could never see any good reason for the use of the terms male and female to designate the sex in men and women, and to say the least, it is indelicate.

DR. GILMAN: We were all refreshed this morning by the frank and patriotic paper of Dr. Russell, but I don't believe we want to discard from our institutions the examination of sputa or the examination of urine or proper surgical operations that may be necessary outside as well as inside of the hospital. I don't see why there should be any difference made in the treatment of diseases when it is called for in the hospital and outside. If there is a diseased ovary or a diseased uterus or disease of any other organ that may call for surgical interference, it should be attempted in the hospital as it should be outside for the relief of the patient and just the same means should be used there as we would use anywhere else, just as in the medical treatment of any disease of the patient that may appear inside or outside of the hospital. We recognize that this may occur in the case of the chronic insane as well as in the case of the acute insane. I do not believe that we want to do away entirely with the scientific work that is being done in the laboratories of the hospitals of this country, that will be of very great value if properly collated and properly used as it is going to be. In the matter of buildings for our institution we have during the past year completed an infirmary building for the feeble and aged of our male population. We have constructed a one-story building, so that the old men and the feeble men, who can't climb up and down stairs, in order to get outside, can go out at will and have the liberty of the ground. It is certainly one of the best improvements that we have had for the comfort of this class. These aged and infirm men, who perhaps have borne the heat and burden of the day in settling up the States where we reside, who have gladly paid the taxes to build these institutions for the comfort of the unfortunate, should have this accommo-

dation where they can in their last days have that comfort which they need and which they deserve. We have also during the past year added a hospital ward with an aseptic operating room to our male and female division of the hospital, or for the men and women, as the Doctor has said. The operating rooms have been made aseptic and we have had no trouble whatever with sepsis in the many operations which we have had during the year. I cannot say too much in favor of the able paper by Dr. Hoyt in reference to the industries in the hospitals. In our State Dr. Hoyt has taken advanced grounds in this direction, which the rest of us are feebly trying to follow. These manufactures and diversity of industries are very important matters. As has been said a large majority of our patients are from the agricultural districts and they come to the institution, especially the women, from a monotonous life. They need diversion if they need anything, and the diversion of employment which they receive is certainly in the right direction in their treatment, as we select the individual cases. The change from the monotonous drudgery of the farm life for the women to the sewing room or to the ironing room or to the employments which we have in several institutions, the entertainments which they are enabled to enjoy by becoming patients in the hospital, is a great relief and is a diversion which accrues very much to their benefit and to the treatment. There is also, as has been suggested by Dr. Hoyt's paper and by others who have spoken, great importance to be attached to a change of employment. These men have been largely farmers and have worn themselves out perhaps by the hard labor which they have been called upon to perform in obtaining a livelihood. They come to the hospital and are put into the shoe shop or the broom shop or the mattress shop or to using tools, which is not only a diversion to them but they learn these valuable trades which in after life, when they recover and return to their homes, become to them a great help in securing a livelihood and in the support of their families. We have instances of men who have learned the shoe trade, the tinner's trade and the manufacture of brooms, three or four different trades, so that they have become quite proficient in each and could go out anywhere and earn their living by working at any one of these trades. There is just one other point and that is the parole system to which the Doctor

has referred. During the past thirty-two years in which I have been engaged in the care of the insane in the capacity of assistant superintendent or superintendent, we have been all through the several phases of the parole system and I cannot emphasize too emphatically the conclusion that Dr. Hoyt has presented to you, that is the fact that it makes a class of gentlemen loafers who are a nuisance to themselves and to the institution. At the same time they are not accomplishing anything which will accrue to their benefit either while in the institution or when they return to their homes. If these men can be allowed to see that they will have the benefit of the parole by their industry, there are two things that will be accomplished, namely, the benefit to themselves while in the institution and when they leave it, and the removal of the nuisance which they are while they are paroled without this industrial feature connected with it. I believe there is another thing in reference to the parole system and that is they are liable to become the chronic growlers of the household and to stir up other patients who otherwise would be contented and happy and accept the situation. They stir up a feeling of discontent and do very much harm in that way.

DR. GARDNER: I have been greatly interested in the papers read here to-day, especially those dealing with industrial factors in the management and treatment of the insane, and those dealing with the proposition as to whether State care or county care furnished the best results, both from an economic and curative standpoint. From an early date the State of California assumed the entire control and care of the insane, with the exception of those treated in private hospitals. The results have been so satisfactory, both from an economic standpoint and otherwise, that I do not think anyone conversant with hospital management in this State would for a moment entertain the adoption of any other system.

It might be urged that we are prejudiced in favor of State care, owing to the fact that we have for several years been working under the system, and that we know little about the county care as practiced in the State of Wisconsin. This may be true, but I have heard nothing during the reading of papers, or during the discussions which have followed, that would lead me to believe county care offered any better facilities for treat-

ing and caring for the insane than can be found in the State care system.

Article three, section one, of the California Insanity Law reads as follows: "Within sixty days after the passage of this act, the board of supervisors of each county of the State shall provide for and furnish at or in the city, city and county, or receiving hospitals, situated in each county of the State, a suitable room or rooms for the detention board, care and treatment of the alleged insane, etc. * * *"

This shows that the law-making power of the State of California after establishing State care for the insane, advances a step farther and demands through legal enactment that even the *alleged* insane prior to examination and commitment shall not be cared for in county almshouses, jails or prisons. This enactment was doubtless the result of a thorough knowledge of the many abuses that have followed the detention of the insane, even for a *short length of time* in such places.

Whether or not the establishment of county hospitals would furnish an entering wedge for the introduction of politics into asylum management, as has been suggested during the discussion, I am not prepared to say; but I am prepared to state that in California there are no politics in our State hospitals, and the law makes it a matter of immediate dismissal from the State hospital service, if any employé is found working either directly or indirectly in the interest of any political candidate. [Applause.]

In regard to the industrial element in hospital management I am glad to say that although the superintendents and assistant physicians of our California hospitals rarely have the pleasure of meeting with this body of men, and that to our detriment, still we are in accord with you as to the value of employment, and are putting forth our best endeavors in this direction. While the economic side of this question is far from being unimportant still the benefits to the insane both curable and incurable which follow judiciously selected employment and entertainment is of the greatest importance.

I have been so thoroughly impressed by this fact during the time that I have been engaged in this special line of work that I feel *almost* prepared to say, if I had to give up either industrial pursuits in the institution over which I preside and the entertainments in connection therewith, or give up all medicines

as curative measures, I would "throw physic to the dogs" and rely upon the former instead of the latter.

DR. GORDON: This is my first meeting as a member of this Association and it is the most satisfactory society that I have ever had the pleasure of belonging to because here you can get an opinion that agrees with your own on any subject. After listening to the able and enthusiastic address of our distinguished President I was convinced that all female lunatics required gynecological operations and I remarked in a confidential way to a couple of the members of this Association that when I got back to Wisconsin I was going to fix up a large aseptic operating room and cure all the women patients at once. They said that Dr. Bucke was an enthusiast on the subject of operative procedure and that others couldn't get the results that he has obtained. The next day we had the article on the administration of thyroids and it really seemed as if we had been neglecting our patients in not feeding them thyroids until the distinguished gentleman from New Hampshire (Dr. Bancroft) seemed to puncture the thyroid bubble. When it came to the discussion of the Wisconsin method of caring for the insane there was the same marked difference of opinion. Dr. Lyman's able paper was eulogistic and Dr. Burr entertained an opposite opinion. The fact is that our distinguished Secretary visited most of the Wisconsin asylums after he had become dyspeptic from the high living he had while at Dr. Lyman's hospital. The method of care in Wisconsin is not a county system of care but it consists of twenty-five asylums scattered throughout the State which are all strictly under State supervision. The people of Wisconsin are satisfied with the method. We believe that a central board which has charge of all the State institutions does greater justice all around than could be obtained by eight or ten independent boards of trustees. The State money is more evenly divided among the State institutions and the system of a central board is a source of strength instead of weakness as indicated by the gentleman from Maryland. In Wisconsin we believe that the man who is strong of limb and able to work ought to work. The chronic patients are distributed throughout the State in these cottages which we call county asylums and which are all under State supervision where they are kept at a moderate expense and are humanely treated. We believe

that the washerwoman and the crippled soldier and sick people generally who have to pay taxes to support the State institutions are entitled to as much consideration as the man who has become insane from the use of alcohol or syphilis or the foreign pauper who has been shipped into this land. While the system is not perfect and its imperfections have been unsparingly pointed out by the people who live in Wisconsin neither do I think the remarks of Dr. Burr convey a fair idea of the method as it now exists.

DR. RUSSELL: I must thank the Association for the very generous way in which they have received my paper. I must say, however, I am somewhat disappointed that my paper has not received more vigorous criticism at the hands of the Association. It may be out of courtesy to me that you have not criticized my paper more liberally, rather than to the fact that you consider it unanswerable. I do not think I have silenced you all nor do I believe that I have hypnotized you by any so-called eloquence. The gentleman (Dr. Gilman) who has attempted a criticism, I must say has taken an entirely wrong conception of my paper, judging from the words which have fallen from his lips. In Canada we treat all types of insanity in one institution, that is all classes are represented in one institution. I believe in treating the acute and chronic and all classes of mental alienation under one roof or under one care. Only one class I believe ought to be treated separately, that is the epileptic. I want to say that we give every encouragement to all necessary medical and surgical treatment of our insane and ample provision is made for scientific research. Our institutions are each well officered with a medical staff well educated under British institutions, and I think all the institutions are fairly well equipped from a scientific and medical standpoint. I want to say further that we have just completed an isolated hospital in our asylum in Hamilton which I think will compare favorably with any institution of the kind in America in style of architecture and internal equipment. We have made excellent arrangement for everything up to date which modern science could suggest. So I have great pleasure in correcting Dr. Gilman's misconception of my paper in that direction. The gist of my paper is to prove that the hospital is only an adjunct and not the dominant idea in the treatment of the in-

sane. Without taking up further time, Mr. President, I would again thank the Association very much for the generous and enthusiastic way they have received my paper.

DR. EDWARDS: There is but little that I can say in the discussion. I was fortunate enough to have read a paper on some plans of buildings that has not been criticized by anybody. We have in Michigan the example of Wisconsin on one side of us and that of Canada on the other side, so we are all the time receiving benefit from each. I might say, gentlemen, that twelve years ago there was organized in connection with the asylum at Kalamazoo what is known as the "colony plan." Many here will remember the paper read by my predecessor, Dr. Palmer, on that subject. Out of a population of one thousand two hundred and sixty-four patients three hundred and seven are now living in colony houses on the two farms, two and one-half miles away from the parent institutions, leaving the acute cases or chronic cases which give so much trouble in the home institution. The patients residing on the farms are those which are by theory separated from the asylum for the acute in other States and sent to the county asylums. I can advocate very strongly to the gentlemen from Minnesota, who are considering this question, the establishment of colonies in connection with their State asylums, it being a thoroughly satisfactory and cheap method of taking care of part of the insane. We are not building palaces. Among our houses for patients I may take as an example a building that cost fifteen thousand dollars in which we have eighty-two patients. It is heated by steam, it has regular medical attendance every day, it has a graduate of the training school in charge, and I think will compare favorably with the Wisconsin or any other cheap method of taking care of insane people.

DR. EASTMAN: I am very glad that the papers on this general subject have brought out this discussion. We have heard the various sides of it and we have gained information that may be of value to us. There are a few points to which I will refer briefly. In reference to the agitation going on as to the words "hospital" and "asylum," it shows the change of sentiment. As I understand it the word asylum for these institutions was first chosen because it was not so harsh sounding as hospital. Now we are drifting to the idea that hospital is the better word.

Personally, it makes very little difference which word is used. Dr. Edwards' building strikes me very favorably indeed. It is an idea that has been entertained by quite a good many. The first I heard of this particular scheme was from Dr. Earle twenty or twenty-five years ago, when he suggested that the best way to enlarge the institution at Northampton, of which he was superintendent, would be to erect a small building some distance from the old one for the acute cases and reserve the old building for the chronic cases. Some of the papers have referred to the difficulty of getting appropriations from legislatures. That charge is true and legislators are very lacking in appreciation of proper institutional conditions. I remember taking one of the members of our legislature about our State institution. Stepping into a large corridor with a number of patients sitting around he exclaimed, "Why, this ward is not *full*," and so it was not. His idea of a full ward was one with all the patients that could be crowded in, like cattle in a stock-car. As to having patients adjudged insane in court, by a sort of criminal procedure, as the law requires in many States, I regard it as an outrage and often very detrimental to the patient. Commitment to an institution for the insane ought to be a medical and not a criminal procedure. In regard to the proportion of insanity among the wives of farmers, I do not think that it is so large, proportionately, as many do. Farmers' wives have a hard life, it is true, but the wives of laboring men and of mechanics and of men connected with various employments, have as many depressing influences as surround the farmer's wife, but, of course, of a different character. When some kind of an association of teachers was holding a session at Topeka, one of the inquiring teachers came to the asylum one day and I happened to meet him at the door. He said he had come to make an inquiry. He had understood there were a great many more farmers' wives insane in Kansas than of any other class of women and he could not understand why it was. I told him that for one reason farmers' wives greatly outnumbered any other class. "I declare," he replied, "I never thought of that."

PRESIDENT BUCKE: I wish Dr. Lyman would tell us something about the system of inspection of these houses by the government. What precaution does the government take to see that the money is properly expended?

DR. LYMAN: I did not expect to say anything but since you have asked for that information I will give it to you as best I can. We have in Wisconsin no insane in the jails and poor-houses, but almost everybody who has spoken upon my paper has referred to the poor in their almshouses. I will say that our board of control, appointed by the governor, is composed of five members. The law requires that some of those members every three months shall visit each institution and make a report as regards the beds, the diet and the general conduct of the institutions. Someone must visit each institution at least once in three months. In traveling through the State and visiting some State institution each week, as members of the board do, they stop off and inspect the county institutions. That report is filed in the governor's office.

DR. WOODSON: Mr. President, may I say one word in behalf of the farmer?

PRESIDENT BUCKE: Certainly.

DR. WOODSON: When you look over the statistics of the asylums you will find the farmer's wife is entered as a farmer's wife, whereas it is not stated if the patient is a banker's wife, a merchant's daughter or wife or a housewife. But if the individual has been a miner all his life and has rented a farm in the last week, his wife is entered as a farmer's wife. If he is digging on the streets his wife is entered as a farmer's wife. As a rule our farmers are an intelligent class of people. The frictions and the worry the farmer is subjected to are no more than those of the merchant, the laborer, mechanic or anybody else. The domestic trouble of the farmer may be as great as of others but no more. The farmer has been very much discriminated against, especially by those of the city who know nothing of farming.

DR. TOMLINSON: I think I can explain why the belief has so long persisted that farmers' wives were in a majority in institutions for the insane. In the early history of public institutions for the insane the patients committed to them came principally from the rural population, because in the larger towns and cities the insane were cared for in almshouses, or else at home. The private institutions were not required to furnish statistics of their population and the almshouses did not do so; while of course there was no record of the cases treated at home. Con-

sequently when statistical tables were made up the farmer and his wife appeared as the predominant element, as compared with those of other occupations, in the hospital population. It should be remembered also that before the civil war in this country agriculture was proportionately a more common pursuit than it is now. In my own experience more patients come from urban than from rural communities, probably because under the conditions existing in our large cities the environment of the average individual is less conducive to mental and physical health than it is in the country.

VALUE OF HOSPITAL RECORDS.

By WILLIAM MABON, M. D.,

Medical Superintendent St. Lawrence State Hospital, Ogdensburg, N. Y.

A question of the utmost importance to all who are interested in the management of hospitals, whether special or general, is: How can we best render available the facts garnered from the abundant clinical material of our wards? Until recently, with possibly a few exceptions, this question has never received the attention it demands.

It can safely be said that the saying, "Plenty has made me poor," can in a measure be applied to hospital physicians or to those who having great wealth of material, gather and use only those facts that are of immediate importance to them and fail to see, or else cast hurriedly aside, others that go to make up the sum-total of experience. The knowledge thus gained is necessarily limited in its application, inasmuch as those who obtain it do so for themselves alone and the profession in general is consequently none the wiser.

Speaking more particularly of hospitals for the insane, it is to be noticed that more and more attention is being given to this question each year by those who are progressive and believe in contributing their quota of experience for the benefit of the profession, and it can scarcely be doubted that this thoughtful attention will have as its concrete result some system with a common basis for recording case histories, indexing subjects and symptoms and making available the large amount of clinical material that fills our wards.

We can say without fear of contradiction that the time of assistant physicians is so taken up with writing routine notes in the old style case-book as to leave them but few opportunities for original investigation. Any method, therefore, that will do

away with the old form of case-book and thus enable physicians in hospitals for the insane to investigate disease more carefully along modern lines and give greater attention to the individual patient should meet with the approval of all who are interested in this subject.

The system about to be outlined provides for the taking of notes upon the wards in such a manner as to make much of the work of recording a profitable task for the nurses. As a result, the value of these nurses to the institution should be increased by the careful training that this experience furnishes. We cannot but be impressed by the marked progress that has been made in recent years in the methods of nursing the insane; and in institutions where training schools are established, it has been demonstrated that not only graduates but also those who are members of the training school proper are capable of keeping accurate and intelligent notes of the various symptoms presented by their patients.

So far as New York State is concerned, considerable progress has already been made in this direction. Dr. Wise, the President of the New York State Commission in Lunacy, has advocated with voice and pen the plan that has been adopted in his State, and to him we are particularly indebted for the inauguration of the system.

Previous to the summer of 1897, every institution in the State had its own system of forms. At that time, it was decided to unify the blanks used in the hospitals so that the entire hospital system of the State might have not only a rational basis for comparison but also a complete system of recording and indexing properly the daily ward experience. Dr. J. M. Mosher, a former physician in the State hospital service and one who had devoted much time and thought to the solution of this problem, was appointed a committee to report upon some method that would abolish or mitigate the objectionable features of the old plan. Before making his report, he received from the superintendent of each hospital in the State copies of all blanks then in use, from which he selected and classified those which presented features worthy of retention. His report was complete and covered the subject of blanks for the medical work as well as the work for the other departments of the institutions. These latter are of great importance from the

WILLIAM MADON, M. D.

standpoint of administration, but as the question of management differs so much, not only in different States but in different institutions, it does not appear to be wise to consider them in a paper of this nature. The forms that concern the noting of symptoms and the observations that go to make up the clinical pictures of our cases are those to which your attention is invited.

The report was adopted by the Conference of Hospital Superintendents with the State Commission in Lunacy and comprises case and clinical records. These may be kept either together or separately according to the individual views of the superintendent. Until recently, it has not been entirely practicable to keep the two sets of forms together but with a modern and model system of filing, it has been found that all facts can be gathered in one record, thus making a complete history of a case from the beginning of the disease to its termination or at least during the patient's residence in the hospital.

In order that the system may be properly understood, I present herewith a brief description of the forms now in use.

The initial blank is one on which is recorded the case number, the number for the year, the name, residence, date of admission, date of discharge as well as certain facts necessary for reference in compiling the annual statistics. On the other side, photographs of the patient may be pasted.

Following this, we have the medical certificate, which gives the petition for the commitment of the alleged insane person, the order of the committing magistrate and the certificate of the physicians in which they state their reasons for certifying to the insanity of the patient.

The initial history comes next and contains all the information that has been obtained by the nurse or other individual, who brought the patient to the hospital. This should never be copied but should always be filed at once, thus avoiding errors that are apt to creep in as a result of transcribing. Furthermore, there is a distinct saving of time. The objection has been made that in some instances this form is not as neat as it should be. To overcome this objection, one who has advocated the filing of original notes says that "Neatness is not always the test of efficiency," but it is rational to argue that when a hospital nurse once knows that the paper made out by her is to

be filed and thus become a permanent part of the history of the case, she will endeavor to present as neat a record as possible. Thus, after all, neatness may ultimately become at least a partial measure of efficiency.

Following in succession the above forms, we have the history of the patient on admission, continued notes for the history, the ward admission record, the clinical record, the physician's initial examination, continuation of the initial examination, the ward notes, the temperature, pulse and respiration chart, the urinalysis blank, blood examination form, blood chart, sleep and weight chart and the autopsy record.

The history of the patient on admission contains the entries made by the physician who admits the patient and has all the headings used in the former case-books and which are essential in preparing the annual statistics. It likewise contains sufficient space for a synopsis of the history and such additional information as does not appear in the form presented by the nurse who accompanied the patient. Sometimes additional space may be required for the history, in which case we employ a form for continued notes whereupon may be entered from time to time such facts in the progress of the disease as are not provided for elsewhere. The expectation is, however, that the clinical records will be kept upon the wards where the physician can make his entries regularly and thus obviate the necessity for using this form.

The ward admission record gives the name of the patient admitted, the county whence he came, the ward to which he is sent, the day and hour of his admission and the time of his bath. Space is also provided for a record of all bodily conditions found when the patient was bathed, such as degree of cleanliness, the presence of vermin, any marks, bruises, scars, skin diseases or eruptions, deformities, ruptures, fractures and dislocations. Here, too, should be entered the quality and condition of the patient's clothing and any articles found upon the person should be enumerated. In addition, it provides for checking by the nurse's signature the list of clothing received with the patient. This form affords the hospitals protection against the occasional allegation of patients' friends that such bruises and injuries were received at the hospital.

The clinical record is generally printed on yellow paper to distinguish it from the case records (where the two forms are kept separate) and contains space for much general information frequently called for. Where the case and clinical records are kept together, this blank does not seem to be necessary inasmuch as with the combination of case and clinical histories we have but a single record for a patient, which is most complete and comprehensive.

The form for the initial examination of the case, and by this I mean the examination made by the physician after the patient has been assigned to a ward and put to bed, is the most important strictly medical form employed, as it necessitates a thorough and comprehensive medical examination. Each original admission to a ward should have this form properly filled in and it should be the commencement of the clinical record of each case. On it, space is provided for recording the pulse rate, degree of temperature, respiration, condition of the appetite, amount of sleep and the degree of bodily nourishment. Hereon also may be noted a description of the mental state, any abnormalities found upon general inspection, important facts regarding the development of the present attack as well as the condition of the various systems of the body, with additional space for any further facts necessary to complete the description of the case. Once this form has been made a part of the patient's history, any new sickness or change in condition may be noted on the ward notes. Occasionally, the result of an examination requires more space than this form allows, in which case blank sheets may be employed.

The principal form for the clinical record is that for the ward notes and is to be used by both nurses and physicians day by day. It provides for recording the temperature, pulse, respiration, amount of urine voided, number and character of stools and the time at which these observations were taken. There is also provision for a record of the diet ordered, the medicine prescribed, the physician's directions, as well as the daily variations in the symptoms. As a mere matter of training, it is well for the nurse to transcribe on this form the prescriptions, but the physician should always compare them with the original so as to preclude errors. With this blank, it is possible to obtain a detailed description of the progress each case makes. For

some patients, only two or three sheets may be required while for others a dozen may be needed.

For the sake of contrast, the notes made by the physician should be entered in ink of different color from that used by the nurses. In some interesting cases, it is advisable to keep all the sheets of this form used for any one patient for a time on the wards for ready reference. In the majority of cases, however, they may be sent to the office for filing as rapidly as they are filled up after which they can be analyzed and indexed.

Thus, individual diseases, groups of diseases, symptoms and groups of symptoms can be indexed and cross-indexed in such a manner as to make it possible to find at once facts that otherwise might take hours or even days to obtain.

The chart for outlining the temperature, pulse and respiration is always essential for ready reference and to give at a glance the changes that take place daily in these three important sets of symptoms.

No set of clinical records is complete unless it contains a urinalysis blank, whereupon may be entered the results of the chemical and microscopical examination of this excretion.

As a matter of routine practice, the blood of all recent admissions should be noted and the form employed in the New York State Hospitals for recording the results of the blood count, the percentage of hemaglobin and the character of the red cells as well as the variety of the leucocytes, and any abnormalities in the size of the blood discs or their staining properties is most complete and practical.

In some cases a blood chart should be used to supplement the previous form. The advantage of thus charting the number of red blood cells, the percentage of coloring matter, etc., which can best be done by using different colored inks, will be readily appreciated.

The sleep and weight chart is also a valuable form for graphic representation. The weight can be indicated by red lines and the sleep by black lines or *vice versa*.

Instead of entering the autopsy records in a special record book, we employ two sheets, the first of which has the usual headings, the second being blank for special notes.

With the above described forms, it is possible to have a clear, definite, concise and absolutely correct history of the patient and

the course of the disease. At the same time, the nurse is stimulated to a keener sense of her responsibilities while the physician is kept from falling into a groove in his medical work.

Special conditions sometimes require special records and wherever needed they can be introduced. For instance, all new cases should be examined on admission by an ophthalmologist to determine the degree of eye strain, defects of vision, etc. If abnormalities are found they can be recorded, otherwise negative results can be entered upon the ward notes. A like statement also applies to gynecological work, a special chart being indicated only when diseased conditions exist.

Some institutions make use of a mental chart, which is largely adapted for acute insanities with the object of noting the extent to which the pendulum swings either to the side of exaltation or depression or else approaches the normal poise. When this is employed, we duplicate upon it the pulse rate, the number of respirations, the degree of temperature as well as the weight and sleep and are enabled to compare these changes with those that take place on the emotional and volitional side of the mind.

I would emphasize the fact that no one case will need all the forms that have been referred to but the method has been described in detail with the idea of bringing to your attention the advantages that are sure to accrue from conscientious and devoted attention to our patients as we see them from day to day and to enable us not only to record all possible symptoms or sets of symptoms but also to deal with emergencies as they arise.

A modern method of filing these forms is the Tengwall file which permits the insertion or removal of a sheet or any number of sheets at will without disturbing the rest of the record. Thus, the history of a patient may be taken to court without interfering with the case-book.

A tag giving the consecutive number of the patient may be pasted on the first page so that reference may be made at once to any given case; thus, if after referring to the card index, we find that the history of John Johnson is in volume number twenty-four and that his number is two thousand five hundred, all we have to do is to take up the volume and refer to the number at once. To prevent this tag from being torn off and lost, we should use some reliable photograph mounter. The three inch back Tengwall file will contain twenty-five cases.

In connection with this system of filing, we have to consider the matter of indexing. By this means these records are made not only available but also valuable.

We have all had the experience of wading through, or having someone else wade through for us, record after record for information that it should have been possible to obtain in much less time. The modern card index overcomes this objection and it with the cabinet has been so generally adopted and is so well understood that it is not necessary to describe it.

But few reference cards are necessary to make it reliable and the first one needed is for the general office. This card should have space for the name of the patient, his residence, consecutive number, date of admission and such additional facts as may be required. It should be filled out as soon as the patient is admitted and filed at once in the card index cabinet. The next card essential for ready reference is the one for the superintendent's office, which gives practically the same information as the preceding.

The operation of indexing and cross-indexing may be extended to any degree deemed advisable. A separate card cabinet may be provided for all cases of mental disease and on guides may be written or printed such headings as the case demands. To illustrate, upon a guide we may have the heading Acute Delirium and following this we may have different headings referring thereto, such as the cause, the duration before admission, the duration of the disease, complications, unusual symptoms, temperature, state of the blood and termination. By referring to the guide and the cards that follow, it is possible to ascertain what the average duration was in all the cases admitted, what proportion of patients received during the year suffered from this form of insanity, what the maximum, minimum and average temperature was, what conclusions were arrived at from an examination of the blood and what the termination of the disease was.

It has been suggested that the physical diseases associated with insanity might be described on different colored cards, using the decimal system for grouping them under special headings.

The possibilities of the card index are infinite but its value depends upon the accuracy and intelligence with which it is

maintained. It would indeed be useless to inaugurate such a system and not devote the time necessary to keep it up to date. In the preparation of a paper for a society or for publication, information bearing on the subject can be immediately obtained. The time of assistant physicians will not have to be devoted to dictating case records or to hunting up facts for the court, for lawyers or for relatives of patients.

The guiding spirit in all hospital work should be the stimulation of scientific research and personal attention to the individual case. The latter cannot be had without the former and the day for mere routine ward duty is rapidly passing away to be succeeded by another in which earnest, devoted and skillful observation of our patients as well as the analytical study of the various manifestations of disease is the uppermost thought throughout.

Statistics are notoriously unreliable and it has been demonstrated time and time again that we can use them to prove either side of a question. No doubt this is largely due to the fact that there has never been a proper basis employed. Certain fundamental principles may sometimes be forgotten in our enthusiasm to prove that our point of view is correct or if not forgotten they may be so twisted by the present method of recording as to make them utterly untrustworthy.

Dr. Wise in commenting on the objects sought to be obtained states that this method will result in "the elimination of routine in recording, which is opposed to scientific work and correct clinical observation." He claims that the old case-book is largely responsible for this inasmuch as the physician sets aside a certain time each month to make or dictate his case notes, frequently having to depend upon his recollection of the case for clinical facts. To quote from his statement, "At the present time to look up a case that has passed to the 'other side,' it is necessary to consult the case-book, the original commitment, the autopsy record and sometimes a ward book or a half dozen records peculiar to the individual hospital."

When all the facts bearing on the subject have been systematically recorded, arranged and indexed, each one is of assistance in determining the correct interpretation.

Dealing as we do with most involved problems, it is important to know how we can simplify them. Surely this cannot be ac-

complished by accepting only certain facts and discarding others which we do not think of much importance. Indeed, not only the foundation but the superstructure of knowledge is the sum-total of small things.

We firmly believe that with a proper system of recording and indexing, the literature of psychiatry can be largely increased and its value more than doubled. We cannot afford to look back upon the achievements of the past and be content to enumerate the improvements that have been made in the methods of caring for and treating the insane, but we must ever press forward in our work, striving to add our modicum of experience to that of others to the end that future generations may have smoother paths to tread and come nearer to the solution of many of the complex problems involved in psychopathology that now vex the soul of the alienist.

DISCUSSION.

DR. G. H. HILL: In the hospital where I am we have changed our method of keeping clinical records within two or three years. We now use the card catalogue, to which reference has been made, having one card to each patient. We have two copies, one for the assistant physicians to use for reference and the other for the superintendent to use. As to what should be placed on the card, we have twenty-five spaces on each card to show which ward the patient is in, the last entry showing where the patient is at the present time or where the patient was at the time he was discharged from the hospital. In each space we put down the date when the patient was put in the ward and the name or number of the ward, so that each card shows just how many wards the patient was in, how long he was in a ward and where he was last. Any man on the medical staff, no matter whether he is acquainted with the patient or not, for instance, an assistant physician who has been caring for male patients entirely, who looks up a card of a female patient and knows how they are classified, can trump up a very nice historical statement for the relatives of the patient, should the doctor who knows the patient be absent, by stating where the patient has been and how long the patient has been in a ward where they are doing manual labor. He can then safely say that the patient is in good physical condition although he may

never have seen the patient. For our clinical records we use a similar system, but instead of using cards we use Manila envelopes the size of letter paper, which is also the size of the commitment papers, the documents that come with the patient, and we file those in drawers just as cards are filed in cabinets. We slide the papers in the envelope and on the outside have something similar to that on the card, giving the location of the patient.

These cards are for the use of the medical staff exclusively, but the other cards can be used by others to find, for instance, whether a patient is in the institution or not. As the Doctor says, this is likely to become mixed unless they are kept up to date. So we have a clinical clerk who writes shorthand and is a good penman and it is his duty to keep the cards posted from the memoranda given him by the assistants or the superintendent. The envelopes, perhaps, are not as good as the Doctor's bound volume. In conducting the correspondence, if we get some additional history of the patient, we can drop it into the envelope with the previous history. If a notice is served on the patient concerning a guardian appointed to look after his property, that can be slipped in the envelope. Sometimes the patients, themselves, write crazy letters that reveal their delusions or hallucinations or morbid condition of mind. Instead of sending these home or throwing them in the waste-basket, they can be filed in the envelope. The mental examination I find of almost as much value as the physical examination of the body of the patient. Every patient is catechised within twenty-four hours as to where he is, why he was sent there and what he thinks about it, and that is recorded. Then in these envelopes we file a statement of what may be found on autopsy, the result of examination of the blood, of the urine, and fever charts as well as the clinical record. One advantage of putting these in the envelopes is that you can take a sheet of the ordinary size and the clinical clerk, who uses a machine, can put perhaps five times as much on the sheet with the typewriter as could be put on with the pen in longhand by an assistant physician. Another advantage of the typewriter for this purpose is that anybody can read it, which cannot always be done when an assistant physician makes the record with a pen.

DR. MABON: I would like to illustrate the method of filing records. In examining this file, you can readily see how the sheets are locked in to prevent them from being lost, and you can also see that the histories are kept consecutively. If you desire to remove a history to take to court or for any other purpose, you can readily do so by pressing on a spring and unlocking the volume. The same method applies to single sheets or charts. The scheme of filing permits the insertion of the continued note sheet whenever it has been completed and it is therefore not necessary for any physician or clerk to use the volume when writing their notes. If you have photographs, for instance here is a photograph of hemiatrophy of the tongue, you can introduce it also.

Replying to Dr. Hill's questions about filing letters from patients, orders from the probate court or other papers, it may be said that the Tengwall file permits of indefinite expansion for all records whether letters, court orders, clinical records or photographs.

One feature of the clinical records which I failed to emphasize in my paper is the sheet for recording the results of the urinary examination. It is, as you see, designed for only one sheet and if more than one examination is held this record may become bulky. So in order to save space you may stamp or have type-written upon the back the necessary headings for several additional examinations.

PRACTICAL METHODS IN PHYSIOLOGICAL CHEMISTRY.

By **RICHARD H. HUTCHINGS, M. D.,**
First Assistant Physician St. Lawrence State Hospital, Ogdensburg, N. Y.

The increased attention that has been given in recent years to the study of autointoxication and particularly the papers read at the meeting of this Society last year by Drs. Clarke, Hill and Hurd have emphasized the importance of a careful study of the secretions and excretions of the insane as stepping stones to a rational theory of the nature and cause of certain forms of mental disorders.

The subject is one that concerns us very closely for the opinion is gaining ground that a very large proportion of diseases of the nervous system and particularly those symptoms of disordered mentality which we call insanity are produced by irritation of the higher nervous centres by poisons introduced from without or elaborated within the body. One recent writer, Dr. V. C. Vaughan, says, "It is true without exception so far as we know that the excretions of all living things, plants and animals contain substances which are poisonous to the organisms which excrete them. A man may drink only chemically pure water, eat only that food which is free from all adulterations and breathe only purest air, free from all organic matter, both living and dead, and yet that man's excretions would contain poisons. * * * They originate in the metabolic changes by which the complex organic molecule is split up into simpler compounds. We may suppose—indeed, we have good reason for believing—that the proteid molecule has certain lines of cleavage along which it breaks when certain forces are applied, and that the resulting fragments have also lines of cleavage along which they break under certain influences and so on

until the end products, urea, ammonia, water, and carbon dioxide are reached; also that some of these intermediate products are highly poisonous as has been abundantly demonstrated. The fact that the hydrocyanic acid molecule is a frequent constituent of the leucomains is one of great significance. * * * It matters not whether the proteid molecule be broken up by organic ferments, bacteria, or by the unorganized ferments of the digestive juices, or by the cells of the liver, or by those still unknown agencies which induce metabolic changes in all the tissues,—in all cases poisons may be found."

Dr. VanGieson in speaking of the influence of auto-poisons in the production of nervous and mental disease says, "It is my profound conviction that in the course of time the application of this toxic theory of disease of the nervous system is destined to clear away much of the present vagueness and mystery of the causative agents and pathogenesis of mental disease."

The opinion is general that to accomplish anything useful in chemical research long and special training is necessary, that one's entire time will be required to perform the work and that the apparatus necessary is complicated and expensive. The experience that we have had at the St. Lawrence State Hospital does not uphold this view for during the past year we have carried on almost constantly work in physiological chemistry in connection with the investigations being done at the State Hospitals' Pathological Institute in New York City and we have found that we have been enabled to do this work with but little conflict with our regular duties and it has seemed useful to record our experiences and to tell something of the equipment and work of our laboratory,* even though in doing so there is nothing original that can be said. Our experience will be useful to anyone contemplating inaugurating such work.

The methods which we follow are to be found in one or the other of the numerous text-books on physiological chemistry that can be had, but it would require considerable time to eliminate some of the methods that are not satisfactory and to arrange a system that would give satisfactory results.

*We take pleasure in recording our indebtedness to Dr. S. Bookman, associate in physiological chemistry in the Pathological Institute, New York, for valuable assistance in the organization and equipment of our laboratory.

Our work has been done by the regular staff and has not been permitted to interfere with the other duties of an assistant physician and it seems that such work can be carried on in nearly any hospital.

The laboratory is in the executive building, convenient to the wards and adjoins the dispensary. If occasion requires, the apothecary can be called upon for assistance during a part of the day and when the assistant physicians are engaged elsewhere he can by going in occasionally see that the temperature of the oven remains uniform and that such processes as filtration, evaporation and digestion, which require considerable time, go on without accident. As a matter of fact, he is seldom needed with us, but in a hospital where the staff is small the apothecary, familiar as he must be with many of the technical details of chemistry, may be made a useful ally.

The front of the room is occupied by a large window with a shelf in front for microscopical work and for titrating and delicate color tests of all kinds. Down the middle of the room runs a long work-table forty inches wide and thirty-six inches high, the top of which is slate, and it has a shelf beneath for bottles. The walls are shelved to a convenient height and there is a cabinet for the more delicate apparatus and glassware. An indispensable feature of every laboratory of this kind is a ventilated cupboard or a hood to carry off irritating vapors. Our cupboard was made in a chimney; an arch was cut a little higher than the head and an ordinary window sash fitted to the front balanced upon weights. Its floor is covered with galvanized iron and is about thirty-six inches above the floor of the room.

It is necessary for two or more members of the staff to work together. The several determinations can be arranged to begin in the morning at a convenient hour, say nine o'clock, when the time in the laboratory required will be about an hour; then little or nothing need be done until near noon, when half an hour's attention should be given the work, and again in the afternoon at two o'clock the entire work can be finished up within two hours. With the exception of the first part, the early morning hour, it would only be necessary for one man to be in the laboratory at once, though of course some of the work can be done more rapidly by two than by one. The day may be di-

vided up among the several men or they can work on alternate days.

When beginning the work of the day it is a good practice to get all the determinations started as early as possible; this particularly applies to those which require several hours for their completion, for while waiting for one solution to boil another can be filtered and by working on each in turn all can be progressed through successive steps to completion without waste of time. To do this successfully, each flask and beaker must be labeled to show what its contents are and in what stage. This can be done quite simply; each complete specimen when received is given an accession number, for example, twenty, and an entry is made in the accession book opposite the number showing the date, name of the patient, the disease and remarks upon his condition during the day. This number is placed upon the jar containing the specimen and upon every dish or beaker into which any of it is measured. To this mark of identity is added another to show the determination as "Cl." for chlorides, "Hu." for uric acid, and so on; if there are several stages the final numbers, one, two or three, show in which it is. A filter bearing the mark "20 S2" would be known to contain the second or ethereal sulphates from specimen number twenty.

It is useless to undertake any quantitative determination on a specimen of urine of less than twenty-four hours, as its composition varies with sleep and waking and with digestion and fasting. The specimens, as often as passed, should be at once measured by the nurse, the reaction tested, the bottle labeled with the time, quantity and reaction and brought to the laboratory to be put upon ice. The last specimen should be taken on rising in the morning and should be brought to the laboratory in time to begin work about nine o'clock.

The several specimens are then poured into a graduated jar and are well mixed. The reaction of the whole is taken and the quantity noted as a check on the separate measurements. From this time the mixed urine is looked upon as a single specimen and it is particularly important to know the exact quantity to insure correctness in the several results. The specific gravity is tested by the urinometer or better by the specific gravity bottle. Five c. c. are measured from a pipette into a platinum dish of known weight and put in the oven to be evaporated to

dryness, for the total solids. After this the specimen is filtered, as the succeeding tests are best made with filtered urine.

The following are the methods we employ for the estimation of the constituents of urine:

Chlorides. Place ten c. c. of filtered urine in a porcelain dish and add a few small crystals of sodium carbonate and sodium nitrate after which it is evaporated to dryness over a water bath. The dish is then heated gradually over a Bunsen flame until the residue ignites and burns away. The heat is continued until the residue assumes a whitish color, but the temperature should not be sufficiently high to volatilize the salts. After the dish has been cooled, twenty c. c. of water are added, together with a few drops of nitric acid, which is afterward neutralized by calcium carbonate. The solution is then boiled, filtered and washed. To the clear filtrate a drop or two of solution of potassium chromate are added for an indicator and titrated with a two per cent. solution of nitrate of silver. This is done by adding to the filtrate the nitrate of silver solution from a graduated burette drop by drop with constant stirring until a reddish tinge occurs which does not disappear. This indicates that the process is completed. Now read off from the burette the number of c. c. of silver solution that have been used and multiply the result by 6.88, which gives the number of milligrammes of sodium chloride in the ten c. c. of urine employed.

Uric Acid. Place fifty c. c. of filtered urine in a beaker and add five c. c. of ammonio-magnesium solution. It is then heated over a water bath for about half an hour and titrated with a N-fifty solution (I) of nitrate of silver, using a drop of ammonium sulphide as an indicator. This titration requires considerable care as the process must be completed before the urine is cooled and after adding the nitrate of silver. The indicator cannot be applied until the urine has been filtered. These obstacles are overcome by having a very small filter, which will hold five or six drops. One c. c. of the silver solution is added to the urine and, after stirring, a few drops of the solution are removed in a pipette and filtered through the small filter and a drop of the clear filtrate permitted to fall upon a drop of ammonium sulphide upon a white surface. If the ammonium sulphide is colored dark, it shows that too much of the

solution has been added, but, if no result is obtained, the process is continued cautiously, adding one-half c. c. of silver solution at a time until a faint color is produced in the indicator. The number of c. c. of silver solution employed are then read off from the burette, one-half c. c. is deducted to correct a slight error and the number multiplied by 3.36, the product of which represents the number of milligrammes of uric acid in the urine employed.

Phosphates. Take fifty c. c. of filtered urine and add five c. c. of a standard solution of sodium acetate. It is then heated on the water bath about half an hour and titrated while hot with normal solution of uranium nitrate until a drop of the mixture gives a brown color with a drop of potassium ferrocyanide on a porcelain slab. Multiply the number of c. c. of solution used by .005 which gives the amount of phosphoric acid in fifty c. c. of urine.

Sulphates. Measure fifty c. c. of filtered urine into a beaker and add ten c. c. of thirty per cent. glacial acetic acid. This is then placed upon the water bath for twenty minutes and fifteen c. c. of hot saturated solution of barium chloride are added with constant stirring. The heat is continued for a few minutes and the beaker is then put aside in the ice-box until cold. It is then filtered through an ashless filter and well washed with hot distilled water and diluted HCl until a drop of the filtrate gives no cloudiness upon addition of dilute sulphuric acid. The filtrate and washings are put aside and the filter containing the precipitate is removed carefully with a metal spatula and placed in a platinum crucible of known weight and heated over a Bunsen flame until the ash is white. After cooling, a few drops of nitric acid and of sulphuric acid are added and the crucible is again heated, at first cautiously until the fumes disappear, and then to redness, after which it is cooled in a desiccator and weighed. The increase of weight represents the preformed sulphates in the form of sulphate of barium. The filtrate and washings, which were put aside, are mixed with fifteen c. c. concentrated hydrochloric acid and boiled for five minutes and put in the ice-box to cool. It is then filtered through an ashless filter and burned in a platinum crucible and weighed as described for the preformed sulphates.

Total solids. Five c. c. of unfiltered urine are carefully measured into a platinum dish of known weight, and placed in the oven at a temperature of ninety-five to one hundred degrees for five hours. It is then removed, cooled in the desiccator and weighed. The weight, after deducting the weight of the dish, represents the total solids in five c. c. of urine employed. The dish is then heated to dull redness over the flame until all moisture is expelled; when cool, a few drops of nitric acid are added and it is again heated until the residue is white. Finally a few drops of sulphuric acid are added and after heating to redness again it is cooled in a desiccator and weighed. The increase of weight after subtracting the weight of the dish represents the inorganic solids as sulphates.

Ammonia. Twenty c. c. of filtered urine are measured into a shallow dish and mixed with 10 c. c. milk of lime and placed under a bell jar with 10 c. c. deci-normal solution of sulphuric acid. Everything should be made ready and the two dishes instantly covered by the bell jar as soon as the lime is added or some of the ammonia will be lost. It is left undisturbed for forty-eight hours, when the acid is titrated with deci-normal solution of sodium hydrate, and the diminished acidity is evidence of the quantity of ammonia absorbed.

Urea. For the estimation of urea, we employ the method of Prof. Häfner, which consists in decomposing the urea into water, carbonic acid and nitrogen by means of an alkaline solution of hypobromite of soda. The water and carbonic acid are dissolved in the solution, and the nitrogen, which collects in a graduated tube, is measured, and from it the urea is estimated. 35.4 c. c. of nitrogen represents 0.1 gramme of urea.

If the urine contains albumen it must be acidified, boiled and filtered before applying this test.

Soda and Potash. The salts of potassium and sodium can be conveniently estimated together by the following method: To 50 c. c. of urine are added an equal volume of saturated solution of barium hydrate. It is allowed to stand for a short time and is filtered. Fifty c. c. of the filtrate are collected and evaporated to dryness in a porcelain dish over the water bath, and the residue gently heated over the flame until the organic matter is destroyed. When cold, dissolve in hot water and add ammonium carbonate as long as a precipitate occurs; then filter

and wash. The filtrate is acidified with hydrochloric acid and evaporated to dryness in a weighed crucible on the water bath, and then in the flame until white fumes cease. The weight, minus the weight of the crucible, is that of the sodium and potassium in the form of chlorides. To separate the two salts, they are dissolved in a little water and platinic chloride added to excess, and the mixture evaporated to half its volume. A few c. c. of alcohol are added, which dissolves only the sodium salt, the potassium salt remaining unaffected. They are separated by filtration and washing with alcohol. The insoluble potassium salt which remains in the filter is weighed, after drying carefully, and its weight deducted from the weight of the combined salts gives the weight of the soda. 100 mg. of potassio-chloride of platinum is equivalent to 30.51 mg. of chloride of potassium.

Total Nitrogen. Five c. c. of urine are mixed in a Kjeldahl flask with 15 c. c. of pure concentrated sulphuric acid and digested over a low flame until the fumes cease to come off and the liquid assumes a straw color. A few small crystals of permanganate of potassium are then added to complete oxydation, and after five minutes further heating the flask is removed and cooled. It is then diluted cautiously with water; mixed in a distilling flask with an excess of caustic soda solution, and distilled into a known quantity of deci-normal solution of sulphuric acid. When the mixture in the distilling flask has been reduced to half its volume, the process is completed and the quantity of nitrogen (in the form of ammonia) determined by titrating the deci-normal acid with a corresponding solution of soda.

Toxicity. The toxicity of urine is best tested by its poisonous effect when injected into the circulation of animals—white rabbits are probably best for this purpose. Young adults should be selected, free from injury and of lively disposition. The following observations are noted before beginning the experiment, viz.: weight, temperature, pulse, respiration and the size of the pupils.

The syringe we use was made for the purpose and can be had in the market. The barrel is of glass, 50 c. capacity, and graduated to 5 c. c. The needle, the size of an ordinary hypodermic needle, is connected to the barrel by a short piece of india-rubber tubing.

The rabbit is fastened to the table or a board in such a way that it cannot struggle violently, and the needle inserted in one of the superficial veins, being careful that no air is in the syringe or tube. The marginal vein of the ear is usually selected. It can be seen in rabbits with white ears by holding the ear to the light. In rabbits with black ears, it is sometimes difficult to find. It runs one-eighth of an inch from the border. Having made sure that the needle is well in the vein, the exact time is noted and the injection begun. The rate of injection should be uniform and about 5 c. c. per minute. As the experiment proceeds, notes should be made of the symptoms shown, noting the time and amount of urine injected. The commonest symptoms observed are changes in the frequency and rhythm of the respiration, contraction or dilatation of the pupils, spasms of groups of muscles, and general convulsions, which frequently end in death. It is better to continue the injection until death occurs, as no accurate data are obtained if the animal survives.

The toxicity of urine varies considerably in different individuals, and in the same individual with variations of diet and exercise; and no attempt to establish a standard need be made without taking these facts into consideration. According to Bouchard, who is perhaps our best authority, 30-60 c. c. of normal urine will cause the death of a rabbit weighing one kilo, and the same author estimates that the average human being would survive about fifty-two hours if the renal functions were entirely suspended.

The nature of this auto-poison has been long in doubt. It has been thought at different times to be urea, uric acid, ammonia and the potassium salts. Schiffer has shown that urine is still toxic, though in less degree, when the inorganic salts have been removed, and Lepine seems to have arrived very near the truth when he states that eighty to eighty-five per cent. of the toxicity of normal urine is due to inorganic salts and fifteen to twenty per cent to organic constituents. No reliable data have been obtained regarding the toxicity of urine in disease.

Toxicity of Blood. The blood is obtained from the patient's arm with the usual antiseptic precautions, and is collected in a sterilized flask; when sufficient has been obtained it is put aside in the refrigerator for twenty-four to thirty hours until a firm clot forms and settles to the bottom. The clear serum is poured

off and filtered through a Berkfeldt filter. The following tests can then be applied in the same manner as for the urine: Specific gravity, urea, uric acid, chlorides and total nitrogen, and the toxicity determined by injection into the vein of a rabbit. The toxicity of the blood is usually found to be greater than of the urine, and a smaller quantity will be required for the experiment, but it is well to select for the purpose a rabbit of not more than two pounds weight.

This important subject is still but little understood. There yet remains the important task of distinguishing autotoxic disease when it is met with at the bedside, of tracing to their source the materies morbi, whether they originate in the intestinal canal or in some gland whose secretion is vitiated or suppressed, or whether in the nervous structures themselves, and suggesting methods of combatting their deleterious effects. The solution of these problems can only come when the observations of many investigators can be collected and analyzed. It is safe to say that every hospital contains patients whose insanity is considered to belong to this category, yet reports of such cases are seldom seen in current literature.

I would urge upon those who are establishing pathological laboratories to provide also an equipment for the accurate study of the blood and other fluids during life, feeling sure that in no other way can an intelligent construction be placed upon the delicate changes in nervous structure which are frequently revealed by the microscope.

DISCUSSION.

DR. A. W. HURD: The importance of laboratory methods in hospitals for the insane has of course won recognition and passed the point where any arguments in support thereof are necessary; but there are some results which we have encountered in Buffalo which have been as unexpected as they are gratifying. We have completed and occupied within the past four months a hospital building where all new patients are received. They are placed in a general hospital ward, except in occasional instances, where isolation is required on account of noise or severe illness.

A routine laboratory examination of all the secretions is made in each case. The patients are put in bed. Aside from the

very great advantages which accrue to us in the treatment, there are two results which I wish to touch upon briefly that are of great service.

The first is a reflex advantage to the staff itself. The interest which the staff has developed in the hospital, getting them out of the routine ward work which formerly existed, is in itself an immense stimulus. But that is not the point to which I wish to refer, so especially as to the fact of the influence upon the patients themselves. This was unexpected and is very gratifying. It used to be the experience with us, and I presume of every hospital, that patients when admitted immediately put themselves in a spirit of opposition, regarded themselves as well, and their first energies were directed toward securing their release. Now they are put to bed and treated as sick people, and they more and more appreciate the fact and put themselves in harmony and sympathy with the hospital and not in opposition. Those who are made the subject of lectures in the clinics which are held weekly before the classes from the medical college, are, as Dr. Eskridge said, most interested in their treatment. This may be but one of the minor advantages of laboratory methods in hospital work, yet it is great assistance to have the cooperation rather than the opposition of our patients.

DR. HARRINGTON: It seems to me this is one of the most important papers that has been presented at this entire session, because it calls attention to a field of investigation in which comparatively little has been done but which I believe holds much that is of value. We all believe that there is a definite relation between autointoxication and certain forms of insanity. We believe that autointoxication has some definite relation to the cause, course and duration of certain forms of insanity, but in just what way we are unable to say at present.

The Doctor's paper has enlightened me also, because I have always supposed that in these investigations the chemistry was so intricate that it required a Victor Vaughan to unravel it, so to speak, but with the methods which Dr. Hutchings has described I do not see why studies in this direction cannot be put on foot in our asylums with their present staffs without the addition of an expert chemist.

DR. HUGHES: I am glad to see that subject brought up at this meeting and I am glad also to see the subject of blood examinations obtaining recognition in the minds of the profession generally, and the disposition to interest the profession in physiological rather than pathological methods of research, or rather in *ante-mortem* than in *post-mortem* examinations of the patient. A large number of our necropsies give us no evidences of the perverted physiological conditions that existed in the patient, except by inference. We infer that certain things probably existed in a patient by reason of what we know of the physiology of the organism plus the changes found *post-mortem*. We have been going on through the century examining the debris of a burnt out building, examining the processes and products of morbid action and then inferring the conditions which probably preceded them. The accuracy of our conclusions, the correctness of our deductions have depended upon the physiological knowledge we have possessed, and until recent years that has been comparatively limited. It has only been since the application of the microscope and the test-tube to the hæmoscopy of the blood that we have been able to comprehend the meaning of most of our pathological results. The best time to make a diagnosis that will be of value to the patient is *ante-mortem*; the best time to determine the pathological states of the patient is during the morbid processes which engender the perverted symptomatology. And what is pathology as we see it in the living subject? What is disease as we see it in the living subject but physiology modified by morbid agencies? It is perverted physiology. This we can always best determine while the patient is yet alive and while a knowledge of the conditions which underlie the morbid processes may be obtained.

We have interrogated the excretions, but what light do they offer us compared with what must come from a proper interrogation of the blood at the time of the existence of that altered physiological condition which we call disease? This subject will give a new occupation to the assistant physicians and the superintendents of the asylums. A commendable thing in reference to these examinations is the latter day change of public sentiment in regard to them. I remember when I had charge of the asylum at Fulton one of the principal public objections to

me was that I was not disposed to let a deceased patient go out without cutting him up. It was not the truth. It was actually maintained at one of the sessions of the legislature that before making a *post-mortem* I should send out and get the consent of the legal guardian of the patient and of all his friends. I did not always do it and none of you are expected to do this now.

DR. KROHN: I did not expect to interrupt the discussion by taking up any topic that is at all foreign to our line of discussion, but some have expressed themselves as having at least more than a passing interest in the work we are doing in the line of the psychological examination of patients on admission to our hospital at Kankakee. Of course, as you know, we do examine the blood and urine; make an anthropometrical examination, and an eye and ear, nose and throat examination of the patient as well as the physical and neurological examination. But since the first of the year we have introduced the method of modern experimental psychology or laboratory psychology into the hospital, seeking to get data in reference to the disintegration of the mind on a practical and actual basis. Of course the methods of psychology that we have sought to employ have been the laboratory methods, which come within the range of this discussion in which we are now engaged. It is not the old-time psychology which was concerned in discussing any of the vague and hazy metaphysical entities, but the psychology that came into being at Lepisic in 1878. We have secured the best pieces of apparatus, such as are used in the best laboratories in the leading universities of this country and Europe, and we have this advantage, that for five or six years we have been gathering data from detailed study of the normal individuals so that we have our standards or norms with which to compare the results we get as to the accuracy and keenness of the senses, the time-rate of mental processes, strength of attention and memory, voluntary motor ability, strength of association of ideas and correctness of reasoning. We are already seeing I think clearly certain results coming from this that assist in diagnosis. It has been made possible through these devices, through these laboratory arrangements, to make a complete examination of the patient and to place the mental examination on the same actual and exact basis as the physical, neurological, anthropometrical or blood and urine examination have been. 1

am sure our results already achieved more than warrant the preparations or efforts we have made in founding this laboratory of psychology. In these few moments I cannot present to you our methods exactly, but I would be pleased to answer any questions and show you our laboratory and its apparatus, for we are more interesting at home than we are away from home.

DR. EDWARDS: It has occurred to me that it may be of interest to the Association to state briefly what is being done now in Michigan in laboratory and pathological work.

We are not so fortunate in all our Michigan institutions as to have a laboratory such as they have at Kankakee and some other institutions, nor have we in Michigan a pathological institute like that of New York. We have at the Michigan Asylum for the Insane a small working laboratory. I hold in my hand a blank form for the examination of each patient admitted which includes the examination of the blood, the urine, of the stomach contents after a test meal if required, a complete anthropometrical examination and other examinations of which I shall not speak. A year ago the five State asylums in Michigan made an affiliation with the University at Ann Arbor to do certain pathological work under the direction of the dean of the medical department, Dr. V. C. Vaughan, and especially under the professor of pathology, Dr. George Dock. We have established an asylum pathological laboratory at the University of Michigan. The asylum pathologist has his headquarters at the University and gives his whole time to this work. Of course we cannot transport the urine a hundred miles or more for examination, and all the simpler examinations such as this are made in the asylums. This is the first year of the work, and we hope to increase it in the future, bringing the asylums and the University into closer contact as the New York Pathological Institute is in connection with the New York asylums. By this arrangement our junior assistants are permitted to go to the University when they may be spared from their asylum duties to prosecute special lines of study. We are looking forward to the establishment of a laboratory for psychological research.

CALIFORNIA AND THE INSANE.

By A. M. GARDNER, A. M., M. D.
Superintendent Napa State Hospital, Napa, Cal.

STATE HOSPITALS AND THE NUMBER OF INSANE UNDER STATE CARE.

In the year 1851 the first State hospital for the care, custody and treatment of the insane was erected in the city of Stockton. At various times since the above date there have been established by legislative enactment four other State institutions, all of which are devoted to the same ends, making in all five State hospitals that are to-day engaged in this charitable work. Upon the thirtieth day of April, 1897, the total number of insane under State care in California numbered four thousand eight hundred and fourteen. Probably one hundred and twenty-five insane persons are being cared for in private asylums.

Early in the history of the State it was determined that the insane should become the wards of the State, and ever since the opening of the hospital located at Stockton, up to the present, the State of California has assumed the entire control, custody and treatment of its insane. That system of caring for the insane which recognizes them as wards of the State is known as *State care* in contra-distinction to that system which permits a certain proportion of the insane in any State, to be cared for in prisons, jails and county almshouses.

STATE CARE AS COMPARED WITH ALMSHOUSE AND PRISON CARE.

A brief comparison of these methods of caring for the insane should now be made in a discussion of this subject, in order to make clear certain propositions that will be considered later on. There is a widespread concensus of opinion among those who have an extended experience in dealing with the insane, that

State care affords the best means and methods for the protection of these unfortunate people. Many of the worst horrors that have been connected with the management of the insane during the past fifty years have found a breeding place and have been carried out to their full consummation within the walls of prisons, county jails and almshouses, abodes in which an uncertain number of the insane are still maintained in several of the eastern States.

As stated before, California had early learned this lesson of humanity, and commenced its practical education, namely, State care. New York has recently learned the same lesson and now assumes the entire control and care of its insane population. Several other of the eastern States have done likewise. These instances will show to the reader the trend of public opinion, an opinion which has been productive of excellent and rapid results in a few States, which is slowly affecting others and which has failed to make any impression whatever upon those States which still continue the county almshouse and prison management. It is probable, however, that the time is not far distant when all the insane in the United States, except those in private asylums, will be placed exclusively under State control.

THE NUMBER OF INSANE IN CALIFORNIA AS COMPARED WITH
THE NUMBER OF INSANE IN OTHER STATES.

To compare the number of insane in any particular State with the number of insane in any other State, giving reasons why a difference of numbers should exist, the population in each State being approximately the same, is an exceedingly difficult task to accomplish.

LUNACY LAWS.

There are various reasons why this is true:

First.—The laws under which the insane are committed, and which control and direct this department of State government, are unlike in most of the different States. The lunacy laws of New York and California place all the insane under State care, with the exception of those in private asylums. The lunacy law of Pennsylvania permits an uncertain number of the insane to be provided for in prisons, jails and county almshouses. The population of New York in 1890 was five million

four hundred and ninety-seven thousand eight hundred and fifty-three, that of Pennsylvania five million two hundred and fifty-eight thousand fourteen. Notice the population of each State is nearly the same; still the insane in New York at the close of that year numbered sixteen thousand six hundred and twenty-four while the insane in Pennsylvania at the same date numbered seven thousand six hundred and eleven; by these data it would seem that New York had nine thousand thirteen more insane than Pennsylvania, the population of each State being nearly the same. Can this be true? Certainly not. Had the lunacy laws been the same in each State no such discrepancy would have existed. The facts are, New York reports all its insane, Pennsylvania does not, hence the difficulty of making a just comparison. The above difficulty exists when we endeavor to compare the number of insane in California under State care with any other State where State care does not exist. Comparisons under such circumstances will be invariably detrimental to California or any other State which assumes the entire control of its insane.

RELATIONS OF LARGE SEAPORT CITIES TO INSANITY.

Second.—The location of a large city or cities within the confines of a State will make a marked difference in the number of insane that the State will have to care for, and for the reason that such cities contain a large foreign element in their population. This being true, it will be necessary to show that the foreign population as found in this country contributes a large quota of our insane. During the time intervening between October 1st, 1880, and September 30th, 1895, there were ten thousand nine hundred and three insane persons admitted to the New York City asylums. Of this number three thousand four hundred and fifty-three were born in the United States, and the nativity of forty-eight was unknown. The remaining portion of the ten thousand nine hundred and three, that is, seven thousand four hundred and two, were foreign born. This clearly shows what an important factor this large seaport city with its foreign population is in estimating the causes which taken together contribute to the large number of insane found in the State of New York. What bearing, if any, may the seaport city of San Francisco have upon the number of insane found in California?

During the fiscal year commencing July 1st, 1895, and ending June 30th, 1896, one thousand one hundred and forty-five insane persons were admitted to our State hospitals. Of this number five hundred and seventy-seven were born in the United States, and the nativity of sixty-six was unknown. The remaining portion of the one thousand one hundred and forty-five, that is, five hundred and fifteen, were foreign born, and over one-third of the total number committed, namely, three hundred and forty-six, were received from San Francisco.

The above statement shows how important it is in comparing the insane of one State with that of another, to consider large seaport cities and their population; and all other conditions being equal those cities having large seaports will be burdened with the largest number of these unfortunate people. If further evidence were needed to impress this deplorable state of affairs upon the mind of the reader I would state that at the present time, May 27th, 1897, California is caring for four thousand seven hundred and eighty-nine insane individuals, and of that number two thousand seven hundred and twenty-five are foreign born. If California was caring for those born in the United States only it would be burdened with two thousand sixty-four or less than one-half of the number above mentioned. These incompetents, many of them consisting of the scum, riffraff and dregs of an overcrowded European population, are burdening every State hospital for the insane in the United States; but especially those situated in States with large seaports.

The above figures tell their own story as far as California is concerned. This State also constitutes the tramp's and hobo's paradise. For almost twelve months in the year he can roam from one part of the State to another unkempt and unclean. He usually needs no other shelter than the blue canopy of heaven. That which he cannot beg from those more worthy than himself he steals; and finally in not a few instances finds his way into a State hospital for the insane a burden still to the body politic.

AGRICULTURAL DISTRICTS AS COMPARED WITH CITIES AND THE INSANE.

Third. States with large agricultural districts which furnish healthful outdoor employment for a large number of their in-

habitants will have fewer insane than States with large and densely populated cities, where thousands are employed in pursuits which are not conducive to physical health, and hence, often lead to mental impairment. The trend of modern civilization is toward the massing together of a great number of people in our large cities.

"In 1790 only one-thirtieth of our country's population lived in cities of over eight thousand inhabitants, in 1890 nearly one-third. In 1790 there were only six cities in our country with a population of eight thousand or more while in 1890 there were four hundred and forty-eight."*

This condition of affairs when once known cannot but attract the attention of every thinking man and woman. Just what this means to the commonwealth as a whole, and to the people of each State, morally, intellectually and socially, will depend upon how these great masses of people live in these large cities. While the wealthy have their sources of dissipation and degeneration, which often lead to insanity, still it is the poverty stricken to whom we must look for the greater number of recruits that fill out State hospitals. To substantiate the truthfulness of the preceding statement, I will state that in 1890 there were ninety-one thousand nine hundred and fifty-nine insane persons in the United States; of that number *eighty-eight thousand six hundred and sixty-five were paupers*, of whom *twenty-two thousand nine hundred and sixty-one were foreign born*.

For the data showing how they live in New York City, I am indebted to statements made in the June number of the *Arena*, 1897, by Professor W. I. Hull, Ph. B. Mulberry Bend is known in New York City as "New York's Italy." The name is suggestive of the nativity of the inhabitants. Extending in various directions from the "Bend" are crooked and dark passages which are lined with towering tenement houses. These are the homes (?) of the masses we are considering. Every race, every land and almost every nation, tongue and kindred are represented here. So great has been the influx of people of other nations into our large cities that some parts seem like foreign lands to our native born inhabitants. In New York and Philadelphia the foreign born in the cities at large constitute

**Arena*, June, 1897, Prof. W. I. Hull, Ph. B.

thirty-four per cent. of the entire population, and in tenement districts they form sixty-two per cent. Those of foreign parentage constitute sixty-nine per cent. of the people at large, while they form ninety-two per cent. of the dwellers in the slums. One district of thirty-two acres in the eleventh ward of New York contains three hundred and fifteen thousand eight inhabitants, that is, nine hundred and eighty-six persons to each acre. Few of the so-called homes have water distributed through the different departments, hence bathing facilities are limited. Only three hundred and six persons out of two hundred and fifty-five thousand thirty-three have had the opportunity to bathe in the houses in which they live. We might continue to dwell upon these sad conditions which are found in these large cities, conditions which are conducive to physical disease, crime and insanity, but this must suffice. Under this heading it remains for us to consider the State of California in reference to its agricultural districts and large cities, and determine whether it is subject to like conditions, as found in the State of New York, only in a less degree. California has nine cities with a population each of over ten thousand inhabitants. These cities have a population in the aggregate of at least five hundred thousand and which constitutes five-twelfths of the population of the State, according to the census of 1890. California has also large holdings of many thousands of acres of land, untilled and practically uninhabited. Much of the land that is under cultivation is tilled in such large bodies that frequently twenty-five and fifty thousand acres in grain may be found under the control and ownership of one individual. While these conditions remain unchanged, while five-twelfths of the entire population are massed in our cities, California will occupy a high rank among the States that are burdened with the care of a large number of the insane. Any agency that may be instrumental in placing a portion of our cities' population upon these vacant lands or that invites the healthful and strong to immigrate to this country, to occupy these broad acres, will prove a public benefactor to the people of this State and at the same time prove to be an important factor in the reduction of our present high rate of insanity as compared with our population.

CALIFORNIA AS A SANTITARIUM AND ITS EFFECT ON INSANITY.

Fourth —A State which has earned a reputation for the excellence of its climate, in ameliorating or assisting in the cure of a certain class of diseases, is liable to have its insane increase and for the reason that the importation among its inhabitants of persons who are suffering from disease of any kind, often indirectly paves the way for mental unsoundness. The position taken in the discussion of this part of our subject is to the effect that insanity is only a symptom of the diseased, degenerated or deranged condition of the body, and that all other conditions being equal, those who are suffering from bodily disease, degeneration or derangement are more liable to be afflicted with insanity.

California has achieved the reputation of being one of the great health resorts of the world. Individuals suffering from all forms of disease are coming here in the endeavor to regain their lost health. Many of them have passed the point where medical skill, climatic surroundings or anything else that may be utilized for the alleviation of human sufferings can be of any avail. Physicians who should know better advise the removal of hundreds of such invalids to California. But where in California? Any climate from the frozen north to that of the sunny south may be found in California; still this State is pointed out as the Italy of America to these unfortunate sufferers, and friends acting under such advice, ignorant of the result and with an anxiety beyond expression, hasten to this supposed cure-all with their sick friends, only in many instances to be disappointed; that a properly selected portion of this State with the climatic influences found in the part selected will prove of benefit to properly chosen cases, all are willing to admit; but to send such invalids indiscriminately to this State, without giving instructions where or in what locality they shall abide, frequently works a great hardship to the invalid and manifestly a detriment to the State and its inhabitants.

TUBERCULOSIS.

Many consumptives are coming to California every year. Every such individual is suffering from bodily disease, and as before stated insanity is only a symptom of bodily disease, degeneration or derangement, and hence among this class of per-

sons we should expect a high percentage of insanity. It has been estimated by different observers that about fifty per cent. of all deaths in asylums are from tuberculosis, and Schröder Van der Kolk was of the opinion that hereditary predisposition to tuberculosis might develop into insanity, and on the other hand that insanity might predispose to consumption. Be that as it may several writers on insanity have taken notice of the apparent connection existing between the two conditions, and have considered them to be markedly more than accidental.

Burrows, Ellis, Friedreich, Schröder Van der Kolk, Skæ, Clouston, Biaute and Ball have written more or less upon this subject and have clearly shown that lung diseases and tuberculosis in particular have a marked influence on disorders of the mind. While the immediate immigration and presence of these unfortunate people is a menace to the inhabitants of this State, as contributing to the increase of our insane population, still, it is to the future that we must look for the most dire results. That tuberculosis is contagious there can with our present knowledge of the disease be scarcely a doubt; and as an evidence that this is so, certain locations on the shore of southern France once contained a population which could boast of possessing the best of health; but after this beautiful country had become a resort for people suffering from tuberculosis, rapidly the once healthy and consequently happy inhabitants became infected by the same disease. Through the inherited predisposition to tuberculosis which such persons transmit to their offspring, coupled with the contagion which is ever present in their midst, these people are rapidly becoming a community of invalids. If a halt could be called at once in the further reception of these defectives, if the diseased could be segregated from the healthy, and if a strict quarantine could be established, it would take generations to undue the evil results that have been introduced among this people in an exceedingly short length of time. The extensive introduction of tuberculosis into this State by those coming here in the search of relief has already been felt through its immediate effects in raising the percentage of the insane, but what the future may hold in store for the inhabitants of California, in the way of degeneracy and disease, and which has had its beginning in this kind of immigration, can only be foretold by making a careful examination into the

deplorable results following the introduction of tuberculosis into other localities having a reputation for excellence of climate.

NARCOMANIA.

This term relates to the excessive use of narcotic drugs, especially opium or any of its alkaloids, and cocaine; and that its habitual and excessive use has reached such a point that the individual is no longer able, unaided, to control his desire for the drug.

While every State in the Union has its devotees to this ruinous habit, California probably above all other places contains the greatest number. Its use is indulged in by a certain portion of all classes of society, but especially may its slaves be found in the slums of our larger cities. Had the orientals in their advent in this State deliberately planned to plant a withering curse in the midst of our population they could not have succeeded better than when they insidiously introduced this the opium habit. When once the habit is permanently acquired it destroys all the ennobling characteristics of the individual, makes him a liar and usually a vagabond. These degenerates increase the ratio of our insane to the total number of inhabitants. They are entailing through the laws of heredity a curse of physical degeneracy, nervous instability and mental unsoundness upon future generations, the magnitude of which it is impossible to determine.

In closing I would say to the reader who may do me the honor to read this article, that I have endeavored to point out some of the reasons why California has apparently such a large number of insane, when compared with its population. The number of insane, however, that a State may be caring for at any given period is one thing, and the number actually committed during the same period is quite another. Thus, during the year 1896 there was one insane person committed to our State hospital for every one thousand two hundred and fifty-nine that were sane; while during the year 1896 there was one insane person committed for every one thousand two hundred and fifty-one that were sane. With this showing it is evident that the ratio of the insane committed to the entire population in 1896 was only eight in excess of those committed in 1886.

As long as it appears that insanity is but slightly increased from decade to decade, as shown by comparing the commitments of '86 and '96, and as compared with the increase of population during the same time, the present condition is certainly one not to cause great uneasiness. It is only when the causes of insanity as discussed in this article are considered, that we may be apprehensive for the future.

I wish now to state most emphatically that in my opinion no individual who is the possessor of health and a good constitution, which health implies, need fear to make California his future home. Such an individual will be in no more danger of becoming insane in this State than in any other, but, if through the varying vicissitudes of life such a misfortune should obtain, then, in no land upon the face of the earth can he find a more humane and kindlier care and treatment than will be extended to him by the State of California.

SOME FORMS OF SYPHILITIC INSANITY RESEMBLING GENERAL PARESIS.

By C. R. WOODSON, M. D.

Medical Superintendent State Asylum No. 2, St. Joseph, Mo.

It is not my purpose to even attempt to cover the broad field of this subject, but to more particularly compare, or rather observe, the close relations existing between certain forms of syphilitic insanity and general paresis; or to be more precise, point out some of the differences existing in syphilitic insanity and general paresis. In assuming this position I fully realize that someone will be ready to claim that one is a typical, the other an atypical general paresis. While the psychological phenomena of general paresis and certain forms of syphilitic insanity are closely allied, and the pathological conditions are much the same, the writer is constrained from clinical observation of a number of cases to make the statement that there is a difference, realizing that many alienists are inclined to the theory that the etiology of general paresis is universally due to the baneful influence of specific disease. While I am not disposed to accept this theory, I concede that in a large number of cases it is true. On the other hand, I have been convinced that there are a number of cases of specific origin—cases where but few or mild, secondary and tertiary lesion existed in persons who were assured they were cured and need not continue treatment; in many instances in patients who have been to health resorts, and fallen into the hands of the charlatan, and were by the incompetent or careless physicians thoroughly convinced the cure was permanent. After a period of from eight to fifteen years manifestations of insanity occurred. Frequently the onset has been sudden, though often preceded by irritability of temper, with slight insomnia, and a degree of impairment of
cccl

general health; soon to be followed by marked mental exaltation and typical grandiose ideas; later the tremulous voice and lips, with fibrillar twitching of tongue and muscles of face, often associated with well marked *paraphasia or amnesic aphasia*, and involvement of hand centre and characterized by mild degrees of paralysis, shambling gait, or more marked disturbance of locomotion, resulting in the ataxic gait. These conditions are brought about much more quickly, and advancing symptoms more rapidly appear than in parietic dementia. In one form the congestive paroxysms are less frequent, less intense, and do far less damage to the mind than in parietic dementia. Paralysis of energy more pronounced with strong evidence of cerebral anæmia. Delusions of grandeur in a measure disappear; patient feels less important; realizes when he is in danger; can and does ward off attacks of other patients; often depressed and sometimes emotional. The unequal pupils, the parietic step, the trembling voice and characteristic speech, impairment of sphincters and congestive attacks are the only things that remind of us of general paresis. While this condition is developed in one-third or one-half the time of the average parietic, the progress of the case after this is much slower than general paresis. In fact, there is in some cases a marked improvement, not unlike the arrest of development in the first stage of paresis. Improvement of physical health; taking on flesh, though not solid; enfeebled mentality, though not pronounced. Patients of this type live longer than the parietic. Exaggeration of reflexes equal to the parietic motor excitement, and destructive impulses not frequent, or may be entirely absent. It is not infrequent that in such cases as above described we have recovery.

Again we have cases with an onset not unlike the ordinary case of simple mania in mild forms. The mental exaltation and insomnia not pronounced, with but little or no impairment of general health; early aphasia which as a rule is paroxysmal, and usually precedes an attack, that closely resembles the congestive paroxysms of general paresis, and is followed by mental apathy and a confusion of ideas, impairment of gait and slight disturbance of locomotion in general. Patient improves rapidly with slight damage to mind to be followed a few months later with about the same symptoms somewhat intensified. After a num-

ber of paroxysms, fibrillar twitching of tongue and spasms of facial muscles are observed. Patient realizes at times he has been insane; also realizes his associates are insane. After a period of three or four years, his disease presents many of the characteristic symptoms of general paresis, and runs a course very much like it, though it is of much longer duration.

Again with onset and development of symptoms as described, with motor and destructive impulses, boisterousness or constant grating of teeth, an unearthly, disagreeable, harsh, rasping noise—the latter disappearing for months or years, or wholly disappearing, to be followed by mental extinction, paralysis of energy, and a continuation of fair state of physical health. However, locomotion is not good, and an exaggerated condition of reflexes exists; sphincters are as a rule impaired. Patients of this character after having reached the period of mental extinction, live much longer than the average paretic.

We also find almost an entire absence of nervousness, save paroxysmal attacks of bulbar paralysis. As recovery in general paresis does not take place, the onset is not sudden. The rapid development of symptoms; the arrest of development in advanced stages and early mental extinction; the absence of general nervousness, and ability to appreciate danger in the advanced stages; with a decided tendency to live far beyond the expectancy of the general paretic cause me to doubt the identity of the two diseases.

DISCUSSION.

DR. RUNGE: I would like to ask the Doctor whether he has had any fatal cases in his institution where he could have made a differential pathological examination. As far as dementia paralytica is concerned, the pathology we know is pretty well established and I would like to know whether at autopsy there was any difference found.

DR. WOODSON: We have had a number of fatal cases, but I am not a pathologist myself and have not a pathologist at present to offer the knowledge. The pathology of the two is very much allied.

DR. HOYT: I don't understand from my rather limited reading that there is a distinct syphilitic insanity which is not in itself an organic lesion of the brain. I have been led in my

study of mental diseases, much of which was done in the laboratory, to make two broad classifications, one including what we might call pure insanity and the other those insanities which have to our knowledge a pathological basis. In the study of syphilitic insanity I have found no cases in which we do not have organic lesions of the brain. In other words, we had either the gummata or we had the syphilitic endarteritis with obliteration or with such degeneration of the vessel wall, that the vessel calibre was limited and there would be possibly rupture or complete obstruction of the vessel. In the *Alienist and Neurologist* about 1897 I reported a case in which there was complete obliteration of the anterior cerebral artery on the left side with wasting and atrophy of that part of the brain supplied by this vessel. As far as the general relation between general paresis and syphilis is concerned I am inclined to think there are very few cases of paresis in which syphilis is not a general factor. True there are some, but I think if we could delve back and get into the true history of the case we would probably find syphilis there.

DR. GUNDEY: The Doctor's case recalls to my mind one that called last Sunday. I have put the patient's name on a card here and I would like to hear the Chairman's opinion of the case, which he will recall. It is a case I think of about ten years' standing.

DR. HURD: Dr. Gundry has asked me in reference to a case I have seen occasionally during the last five years. It is unquestionably a case similar to the one Dr. Woodson has described, that is, a case of syphilitic paresis running a slow course. The patient was first seen by eminent neurologists in New York and Philadelphia, who gave the friends very sanguine hopes of recovery under anti-syphilitic treatment, but I am sorry to say these hopes have not been realized. When I first saw him he had delusions of an extravagant nature. Those have since disappeared and he is now in a state of quiet dementia with marked ataxic symptoms. Why he has lived I am unable to say.

DR. ESKRIDGE: I would like to add just a point here. We must depend upon the pathologists largely for the solution of this question. There may be a difference but no clinical observation will ever be able to make clear that difference until

we have the pathologists study the brains of typical parietic dements and the brains of those suffering from the similar condition produced by syphilis. We know that syphilis will give rise to gummata and it will also produce arteritis. It is probable it affects also the lymphatics. It may also affect the cortical cells of the brain and the meninges. Lastly, it deteriorates the blood and indirectly interferes with the nutrition of the brain. So we may get almost any symptom, the difference depending on the anatomical lesion. Now it is questionable in my mind whether we can make a differential diagnosis that one authority mentions simply on the condition of the eye muscles and other paralytic symptoms. It is my experience that it is often impossible to differentiate cases of parietic dementia due to syphilis from those due to alcohol and other causes. Some cases are due to syphilis, some to alcohol and some to over nervous strain, and I must confess my inability to make a distinction between them. I will reiterate what I have said, that we must await the results of the investigation of the pathologists.

DR. LANE: I would like to give an off-hand report of two cases in which I am interested. When I commenced work in 1884, I received three patients with the same diagnosis. One of these patients died two years ago; the other two are still living, one perfectly sane. In these three cases we had better evidence than usual of the syphilitic condition. The evidence was on the patients in the form of cicatrices and copper colored patches on the shins. The acute symptoms subsided during the first eighteen months. These patients remained in the mental condition, with the exception of one who has gone to his home sane but a cripple from spasmodic contractions; the other two were demented for a number of years with no change in their mental condition. There was an arteritis, I feel sure, in all three cases. Clinically these cases have always been of interest to me, since they presented undoubted evidence of syphilis and all three of them reached this permanent stage in less than two years.

DR. TOMLINSON: I think one's opinion with regard to the origin of general paresis is likely to be influenced by locality to a certain extent. We know that on the continent, the claim is made that there is no paresis without syphilis and I think in the eastern part of the country the opinion is about the same. In

the northwest, however, such has not been my experience so far, and in Minnesota I would say that there is rarely any evidence of syphilis in our cases of paresis. There is one point with reference to this connection, which I think it is well to consider. We all know that in the first stage of general paresis there are likely to be marked changes in the character of the individual with a marked tendency toward sexual excesses. There have been two instances within my knowledge in which syphilis was known to have been acquired during the first stage of paresis. As far as the morbid anatomy is concerned, it is true there is a very great similarity between the changes found in syphilitic insanity, in the brain, and those in advanced paresis, where they live a considerable length of time and marked dementia supervenes. Then there is another class where endarteritis is not marked, where there is marked atrophy of the cortical cells and degeneration of the blood-vessels; they are thin, have lost their intima and are much like lymph-vessels. These two types vary much also in their clinical manifestations. In the cases where there is endarteritis, the grandiose delusions are most marked. In the other type there is simply a loss of both physical and mental power, which goes on without any other marked manifestation of mental aberration. These points I think should be considered when we discuss the general subject. As Dr. Burr says, this subject should be taken up systematically before we express an opinion one way or another. I mention these points because of the tendency we have to form a judgment from the nature of the cases we come in contact with in our own experiences.

THE LESSON TAUGHT BY A FEW HARD CASES.

By WILLIAM ELLIOTT DOLD, M. D.,

First Assistant Physician "Bloomington," White Plains, New York.

The most embarrassing and sometimes the most painful question physicians in hospitals for the insane are called upon to answer is this, "Will the patient recover?" Before a history has been given, sometimes before the patient has been seen, we probably hear this anxious query. Many cases, unfortunately, leave no chance for the expression of hope. As soon as we hear a patient boasting of his superhuman strength, his ability to make millions of dollars in a day, and note his possible ataxia of speech and gait, his facial tremor and pupillary changes, and receive from his relatives an account of his sleeplessness, his ebullitions of anger and violence, we feel that we have a *paresis* to deal with, and we know that there is but one answer. Or when, as is often the case, we are informed that the patient has been odd from childhood, has always been selfish, egotistic, suspicious, ungovernable, that these symptoms have slowly grown more and more unendurable, until, finally, the manifestations have forced upon relatives the realization that home is no safe place for treatment, we intuitively feel that we have a case of *paranoia*, and that form of the disease that offers little prospect of amelioration, and none of recovery. Thus it is, when we are brought face to face with the insanity of epilepsy, with *folie circulaire*, with terminal and senile dementia. But I feel sure that there are very few physicians in this room who have not met, in the years of their experience, with some remarkable recovery from what they considered hopeless brain disease.

My association with the insane has been brief, when compared with that of some of the members of this Association; but it has been such as to warrant this surmise; and I have often wished that it were possible to hear from each physician the history of those patients that he has worked over, worried over, despaired of, and has ultimately seen return home—recovered, and fit for years of usefulness. I cannot but feel that a record of such experience would be replete with interest, and useful lessons as well. I have personally seen such unexpected recoveries, that I have often been prevented from giving a positively unfavorable prognosis in cases, that certainly, so far as I was able to judge of them, held out but little hope of recovery.

In the study of the treatment of the insane, I was for years fortunate in the guidance of that well remembered alienist and former president of this Association, Dr. Charles Henry Nichols, whose optimistic views concerning the curability of certain discouraging cases, surprised me, and more than once served as an important lesson; a lesson that I hope may be drawn from the histories that I propose to bring to your attention.

In looking over the writings of physicians who have made brain diseases a specialty, I have been somewhat surprised that more attention was not given to the subject of recovery from such illness, after the cases had passed into a condition of supposed chronicity.

Dr. Blandford says, "If a twelvemonth elapses without appreciable improvement, the chances are decidedly unfavorable. If delusions or hallucinations remain fixed and unchanged at the end of a year, especially if there be hallucinations of hearing, the prognosis is bad." And Dr. Griesinger says, "At first the condition continues for a long time stationary, in the form of melancholia, varied with only slight changes for the better. At this period it is extremely difficult to say anything with certainty as to the curability of such patients, but when this state of melancholic apathy continues for three or four years consecutively without remission, recovery is extremely rare. The great majority of recoveries from mania take place within a year from commencement of the disease; nevertheless, cases occur where recovery takes place after the disease has continued six or seven years."

Dr. Savage gives the history of a most interesting case—that of a man who for thirty-four years was under treatment in Bethlem Hospital, and then “was discharged recovered, and remained well since.” He also cites the case of a woman who suffered from melancholia for many years and recovered.

Dr. Buttolph, when in charge of the Trenton, N. J., Hospital for the Insane, reported the recovery of a woman patient after she had been insane eighteen years, and that of a man who had been insane six years.

Dr. D. Hack Tuke mentions a recovery in the case of a woman who suffered for twenty years from mania. In addition, he makes mention of a recovery from “profound melancholia” after the sickness had continued fifteen years. But the subject *must* be an interesting one to alienists, and so few among the many writers have much to say concerning it, that I feel no apology is due from me for calling your attention to the following cases:

Miss A. B. C.: Admitted January, 1882; age, thirty-one; bright intellect; first attack. Two months before admission became suddenly violent; tried to cast herself from the window; to put eye out with a pin; weeping; beating her head with a brush; wanted to go to a convent; worse when menstruating; of neuropathic stock; mother intensely nervous. When admitted was constipated, and tongue was heavily coated; said she had heard her father and a doctor talking about her, and that they proposed taking her to Long Island and cutting her throat; appeared to have auditory and visual hallucinations. Very insomniac; said she was kept awake by her father and mother “up stairs;” could hear them; tried to strangle herself the third day of her stay in the Institution. When written to from home would not credit the statements made in letters; fears if she goes home her parents will have her hanged; begs to be kept here always. A month after admission, very anxious to hang herself, yet fearful of injury if sent home. Sleeps fairly well, and takes food with some relish.

March 25th (two months after admission), having systematic massage, rides, walks, tonics, and employment when indoors; gaining somewhat, but very anxious, fearing that she is to be arrested, and punished for “feigning” insanity; declares she did this before coming to Bloomingdale. Ten days later, tried to

cut her throat with a table knife, but only scratched the skin. Four days later became greatly excited; tried to bite and otherwise injure her attendants; dashed her head through two panes of glass, trying to cut her head off. A month later, still suicidal; delusions remaining in full force; when in a state of excitement was a most difficult patient to manage, tiring out five or six attendants in a day. In July, greatly excited about Guiteau, and begging for a pistol. Thrusts her hand and arm through windows if she has a chance; cut her hand severely in this way. Very noisy, violent and destructive. Seven months after admission, very homicidal as well as suicidal; tried to kill her physician and the nurses, and attempted to strangle herself; nearly succeeded.

On September 1st, 1882, her physician made this note concerning her case: "Found the outside door leading into a court unlocked this morning, a circumstance of which the attendants were ignorant, and laid her plans for escape. While her attendant was in the water closet, she passed noiselessly out, taking with her an Indian blanket, removed her dress and stockings, and threw the blanket over her head to complete her make-up as a 'tramp.' She mounted a heap of coal piled against the fence in one of the airing courts, and jumped to the ground on the other side, striking on her back; soon after recovering herself, she saw a laborer approaching, and she began to pick up chips. When he asked what business she had there, she replied that she was picking up chips, and hoped he would not prevent her; he then passed on, satisfied. She hurried out of the gate and climbed over the fence into the Boulevard, still retaining some of the chips, thinking that they might heighten the effect of her assumed character. Though often refused or ignored, she succeeded in begging about fifteen cents, when she had reached the elevated railroad station; there she was overtaken by an attendant and brought back by the latter and a police officer. She stated that her intention was to go to the City Hall, see a judge, interest him in her behalf, and thus escape being hanged. She chose the character of a tramp because she thought it would be easier to escape with the garments suitable for that make-up, and as she had no money, she would excite less attention by begging than if her dress was

that of a lady. She seemed to suffer none from the effect of the efforts she must have made.

In November, menstruated for the first time since admission, and for a few hours she appeared much better; then her delusions and suicidal impulses returned. Is constantly devising schemes for ending her life. Had a trial visit at home under special care, but came back in a few weeks in a dazed condition; not certain of her identity; felt that some of her bodily members were wanting; that she has been and is transported from place to place without willing it, and without being clearly conscious of using the ordinary means of locomotion. She improved slightly, and then retrograded, and in February, 1884, felt that she was drifting rapidly toward her end; that she was getting farther and farther from her identity; was languid, had no hopes for the future, looked to death as a happy release, but had no longer a suicidal impulse; nights passed in dreams, and in these she found some comfort, for she was not troubled about her identity. Spoke of having been nearly insane some years before, as her parents had forced her to break an engagement of marriage, and this caused her great disappointment. Thought if she had been married at that time, she would never have been so troubled as for some years past.

By March, '84, her menses had reappeared, and she seemed better in some respects, but still thought she was near death.

In April, '84, had grown very careless as to her personal appearance; unable to select proper articles of dress, yet greatly irritated by her nurse's attention; sometimes let her hose hang down over her shoes, and would not have changed her under-clothing for weeks if she had been permitted to do as she wished. Became more delusional, and in May, '84, was tormented by the thought that she was a wash-basin, a glass bottle, a dress, a chicken-head. Very negligent of her appearance. In June appeared rather better, but spoke of herself almost constantly in the third person. Her face had lost its attraction, and she looked dull, apathetic, almost demented. In September, '84, she was sent to the Country Home, conducted by the Institution, where she spent a number of weeks under careful attention, and was benefited. December, '84, often displayed evidences of great languor, and at times had attacks of vertigo, nausea and vomiting; her menses were regular and bowels were

kept soluble. Her mind was much clearer, and she seemed to feel reasonably certain as to her identity.

In January, '85, she was more disturbed; thought that a large part of her individuality was "being dissolved" and lost in the water when bathed; attacked her nurse when the latter changed her (patient's) underclothing; rather profane at times. In April, '85, menses irregular, and she was irritable and depressed. July, '85, she was irritable and profane. On the 29th, was discharged on trial, and in August her father wrote that she appeared perfectly well, and her letters indicated nothing abnormal. In November, '85, when seen by physicians and former nurses, appeared entirely natural; later, she visited the Institution, and attended a ball; recovery appeared complete.

Writer has seen her often since that time. She married the gentleman to whom she had been engaged, and has been very happy in her married life. Some years ago, her mother died; later, a brother became insane; but she has never exhibited the slightest evidence of being other than in excellent mental health. Duration of disease, about four years.

Miss M. H.: Admitted in May, 1883; age, forty-four; spinster; first attack. Always enjoyed vigorous health, save that while teething, she had many severe convulsions; so severe, indeed, that at times no signs of life were manifest. She was retiring as a child, and has never changed in that respect, depending entirely on the domestic circle for amusement and occupation. Her father was wealthy, and her educational advantages the best; her family relations eminently refined. Six months before admission, without apparent cause, she became despondent, and at the same time very irritable; lost flesh and slept poorly; grew worse constantly, and just before admission, had a maniacal outburst; destroyed furniture, screamed, ran about in an aimless way, and struggled with those who tried to control her. After she became calm, spoke of what she had done as if it had been a dream. She confessed later to strong suicidal and homicidal impulses; said she tried to drown herself in a bathtub by holding her face under the water; hunted for knives, etc. Feared she would be subjected to some severe surgical operation. Upon inquiry, it was found that her paternal grandfather had taken his life while in an asylum; that a paternal aunt was insane, and recovered after three years'

treatment; that her father had an attack of melancholia when forty-nine years of age, during which he cut his throat from ear to ear. He recovered, and remained well mentally until his death at a ripe old age. A brother died in an asylum of epileptic insanity.

Patient said when questioned, that on a certain day, four and one-half months prior to admission, after spending the day in making purchases, a very sudden and profound change in her feelings occurred; suicidal and homicidal impulses took possession of her, which she now attributes to the devil or electricity, or both; had a sensation of fullness or distress in the head and left side; felt like cutting off the head of a child of three years, living in the same house. Never confessed her feelings until the day before her admission. Said the suicidal impulse left her at that time. She answered questions automatically, her mind evidently disturbed by delusions of the most painful character. Asked where the "chains" were; looked out of the window and said she saw her father in his carriage. She was placed on nerve tonics, but grew worse; soon became violent, and caused much trouble; would try to remove her clothing in the presence of her physician. Thought she had stolen all articles of her apparel. In conversation, she seemed unable to complete sentences, saying, for example, "What I wish to say is—," "Now I am ready to begin—," "But look here, now, don't you know—," etc.

A month after admission, she was subject to almost daily attacks of excitement, during which she would scream loudly, attack her nurse, attempt to get out of the windows, and soil her clothing. Two months after admission, she appeared, when visited by her father, to have no idea as to his identity. Took food freely, but lost steadily in weight; lost seven pounds by end of second month; at times had to be catheterized; albumen found in her urine, but no casts; reaction, neutral; specific gravity 1010; skin dry and harsh.

Six months after admission, she appeared to be drifting into a state of dementia; imitated the manner and speech of a little child; had delusions concerning the identity of many of those about her; thought the physicians were her brothers. Seven months after admission, she had gained twenty-four pounds; was inclined to eat ravenously, and with difficulty prevented

from taking food with her fingers; thought that each time she had an alvine evacuation, she had given birth to a child, and for this reason, tried to keep from voiding her urine or evacuating the bowels.

A year after admission, had become very troublesome concerning religion, demanding that patients and nurses sing and pray with her; went about repeating passages from the scriptures all the day; reading the Bible in a monotone; now thinking herself in heaven, now in hell; said at times that she was dead and buried.

Two years after admission, her mind seemed constantly exercised on religious topics, and she talked in a strained manner as if trying to imitate the voice of a child; she often had the delusion that she was a child, and, in the people about her, thought she recognized the friends of her childhood. She menstruated at rare intervals, and was more excited at such times, repeating Bible texts in a loud voice and ecstatic manner. In the third and fourth years of residence she continued rather disturbed at times, more especially concerning religious matters, and about the identity of those around her. About the end of the fifth year, writer noted that the patient insisted upon calling him her brother, and wept at times because he would not acknowledge her as such. She was quite bright in certain respects, notwithstanding her childishness in other directions. Employed much of the time in sewing—making garments for poor children.

Eight years after admission, she had the same delusions of identity, but was violent at times and repeatedly attacked writer for having assisted in removing a carious tooth; said he attempted her life.

Ten years after admission, much changed; no longer abused writer or thought him her brother; recalled her past acts and words and thought them strange and amusing; attended the theatre, dances, etc. Showed the effects of her long mental alienation by some enfeeblement; but this was apparent only to those who knew her well. In the latter part of the tenth year she was discharged as recovered. She lived with her father very happily for several years, when he died. She then went to housekeeping; managed her financial and other affairs; entertained freely; was greatly though healthfully interested in church affairs, and did nothing to attract comment. She made

many friends, and was cheerful and happy until nearly four years after her discharge, when she was thrown from a carriage in a runaway, had a fracture of the skull, was unconscious for twenty-four hours; life saved by trephining, and never seemed to be entirely well after. It seems probable, however, that but for the fracture of her skull, she might have continued sane the rest of her life.

Mrs. H. F. X.: Age, fifty-seven; was admitted October, 1889; had puerperal mania, when thirty-four years of age, following birth of first child; recovered. A month ago, she lost her husband and soon after was much tried by auditory hallucinations. "The voices" told her that she had not cared for her husband. This naturally added to her already great grief, and a few days before her admission, she became greatly disturbed, beat herself, tore her hair, and tried to take her life; when prevented, she begged to be placed in an asylum. Seemed glad to be in Bloomingdale, but said she "could never recover." Had peculiar sensations "as if on fire" and would lose all control of herself. For six months after admission, she made no very determined attempt to end her life, but at times refused food for a day or two; called herself an "everlasting liar" and begged to be kicked into the Hudson river. About the expiration of the time above mentioned, she made several attempts to strangle herself, and required constant surveillance day and night. She continued to make these attempts from time to time, and was frenzied and noisy at intervals, but gradually became interested in sewing, embroidery and the work of the hall, and in 1895, five years after admission, she seemed much better. This improvement continued, and at last she was cheerful and hopeful, and wished only to use the remaining years of her life in good works. In 1897 she was discharged as recovered, and has been very well since that time. Duration of her disease, about seven years.

S. B.: Admitted October 7th, 1889; first attack patient ever had was fourteen years ago. Was treated at Bloomingdale. At that time he was cataleptic, refused food and had to be fed; thought he was Jesus Christ. His mother died of cerebral sclerosis (Seguin). A sister had melancholia and recovered. For a year before admission, was in a state of continuous insanity, diagnosed by several specialists as "secondary paranoia."

When admitted, he had delusions of grandeur; imagined himself to be Cicero, "the greatest orator of the day." Was very noisy and extremely suspicious; addressed the people about him by Roman names. Now and then, when questioned, he laughed dementedly, and winked slightly in lieu of verbal response. Soon became calmer, and appeared contented, but a month after admission, again became disturbed; his manner and appearance were those of a person in the early stages of intoxication; answers were flippant, often sarcastic, and at times irrelevant; rapidly became worse, and assaulted those about him; drank his urine if given an opportunity. He then became morose, from which state he gradually emerged into one of quiet comfort. Twenty days later, he again became excited, continued so six days, then passed into a sullen, vicious quietude; continued a week in that state, and then, rather suddenly, cleared up. Twenty days later, he again became disturbed; responded to questions with incoherent levity and attempted wit. Ten days later he was quiet, and in a remission of his disease. At such periods his appetite was inordinate, eating four, five, six times the amount usually taken, and if persuaded to eat less, he suffered from hunger. During remissions, this patient usually had many hypochondriacal complaints, that were never mentioned during exacerbation; the essential cerebral disease alone seemed never to worry him.

The attacks continued at somewhat irregular intervals, some rather mild, and some very severe, during which he was destructive and dangerous. In May, '91, this note was made: "Is better now, and as usual, is on parole; the transition stages of his disease are sudden, and the metamorphosis is very complete; during remission, the patient not only fully appreciates the character of past exacerbations, but understands that he will in all probability have others in the future, and speaks with that understanding; even during the exacerbations he seems, in some degree, to understand the nature of his perverted feelings, though, of course, he is quite incapable of controlling them."

Soon after this note, he became excited; when informed about this time of the death of a dear friend, he laughed sardonically, and said, "Well, what of it; I didn't kill him, did I?" This well illustrates the extreme perversions to which he was subject

during the attacks. He thought at times when disturbed that some of his fellow patients were women.

In May, '94, by advice of a New York specialist, he was sent to Europe for the voyage and a change. Soon after his arrival there, he had an exacerbation, and was placed in a German asylum, but feeling that the intervals between his attacks were growing shorter, he earnestly requested to be brought back to Bloomingdale, and this was done. He had five exacerbations between May and August, 1894.

In May, '95, was induced to try the bicycle, and as soon as he learned to ride, purchased a machine, and from that time—three years—he has had no return of his malady. The writer saw him recently, and he appeared in excellent condition. This case is additionally interesting in that the recovery appeared to be directly due to the bicycle. In this respect, however, it does not stand alone.

Miss N. F. H.: Age, fifty-one; admitted February, 1891. Had been ill mentally one month, during which time she had tried to fire her clothing; had attempted several times to jump out of upper story windows; upon more than one occasion had made efforts to strangle herself, and had even endeavored to break her neck by placing it between bars and twisting with all her strength. When admitted, she was profoundly depressed; said she had killed her father (she had really been an exemplary daughter), that she had "cursed the Holy Ghost," and had done many imaginary wicked deeds. Thought she knew the physicians here, though she had never seen them before; had painful hallucinations of sight and hearing, and seemed constantly looking out for an opportunity to take her life; at times became frenzied, resisting everything done for her; threw herself on the floor to prevent self-injury; had to be held in bed for hours. When taken out for exercise, threw herself on the ground; begged to be "dissected," tore her clothes, shouted, and had to be carried into the house. She slept only when given rather full doses of sulfonal (gr. xl); was quite untidy at times. Three weeks after admission, she had an epileptiform seizure, but it was rather light. Before admission, one of the most noted diagnosticians in New York discovered that she had "chronic nephritis," but daily examination of her urine revealed no tube casts, though, for a time, a small quantity of al-

bumen was present. It contained considerable glucose. At the end of the first month, neither albumen nor glucose could be detected; she slept better, requiring hypnotics seldom, but was delusional and suicidal; very untidy at times; also refused food, and it was necessary to use the œsophageal tube to feed her. She caused considerable trouble by her harsh language to other patients, and by attempting to injure them; as many as four nurses were required at times in order to dress her and take her out for exercise. At the end of six months, she continued as noisy, untidy, abusive and destructive as ever, but made fewer attempts to injure herself. Two months later, while untidy in the extreme, noisy, violent and destructive, she seemed to be growing much weaker mentally, and her prospects appeared so poor, that very little hope was held out to her relatives; was certainly one of the most troublesome patients in the hospital.

Two years after admission, she was not only very violent, but profane, and most trying to her fellow patients. Thought the writer her brother, and had delusions concerning the identity of others; at that time no albumen, tube casts, or glucose were found in her urine; as a rule, she was more troublesome in the morning than in the afternoon or evening.

Three years after admission, she was still noisy and abusive; attacked others without apparent provocation; was very bitter in speech, especially to fellow patients, but now and then made apologies for rudeness; at times complained of designs upon her life; said that poison was put in her bed.

Four years after entrance, she seemed much troubled by the thought of her many rude acts, but was excited, irritable, and noisy at times. In the fifth year of her residence, while subject to outbursts of noisy violence, she was able to attend balls and other entertainments; to take pleasure in her clothing; she had gained in weight, and looked well. Gradually improved in every respect, and a few days before the commencement of her sixth year here, she went home on trial. She has been with relatives more than a year; has done well, and is considered as recovered.

Mrs. W. B.: Age, twenty-seven; admitted October 15, 1897; first attack; duration, one year and a half; no mental disease noticed before birth of her last child, eighteen months ago. Since then, she had been extremely suspicious, irritable, ego-

tistic, subject to sudden outbursts of unreasonable anger; she has spent money much more freely than she could afford, claiming that her husband was wealthy. A complete change has been noticed by all her friends and relatives. When admitted she was somewhat excited, spoke to her husband in a loud and angry tone, and reproached him for leaving her here; the changes in her mood were rapid and complete; one instant angry, and face clouded, the next smiling, animated and affectionate. Commenced finding fault with her nurses as soon as admitted; said they were "impudent." She spoke of suicide; tore her clothing to make garments for her children; was very careless about her appearance, but seemed to regard herself as attractive in the extreme. After threatening to kill herself, and when telling her husband (in a letter) of the persecutions to which she was subjected, she wrote, "In the name of God do come and bring me some chocolates." A few days later because not pleased with a fan sent by her husband, she wrote, "You are a God d——d scoundrel." Was soon found to be untruthful and dishonest, and required very careful attention. Upon several occasions, when her husband visited her, she attacked him quite savagely, attempting in every possible way to do him hurt. She lost mental vigor rather rapidly, and eight months after admission, she was very forgetful; appeared to have no idea how long she had been in the Institution; would expose herself when out for exercise, in a demented way. Later she brightened somewhat, and after a year's stay, she was taken home on trial; but this proved unsuccessful, and she returned in a short time.

During the second year of her stay, she became very stout; wrote very erotic letters to her husband; used indecent language before her fellow patients; neglected her appearance; begged to have her little toe on each foot amputated, so as to be able to wear smaller shoes; wanted colored men engaged as nurses; made advances to men patients by notes; applied profane epithets to the medical officers; thought no one in the Institution good enough to associate with her; had delusions of identity, thinking that the writer was an old friend of her youth; thought that another member of the staff tried to poison her with arsenic; that the medical superintendent once tried to rob her mother's house. During the fourth year of her stay, she grew

more irritable and abusive; thought she was regarded as a "poisoner and a convict;" frequently micturated in bed, and said she was "too lazy" to get up. On one occasion was found to have on three dresses, one over the other. The latter part of the year, she improved somewhat, and it was thought well to try the effect of a change. She was therefore removed to a large hospital in a neighboring State, where for about two years, her condition fluctuated, now irritable, abusive, careless, delusional, and again quite pleasant, and mindful of appearance. About eight years from the invasion of her disease, she was taken home. For four years she has apparently been quite well. The writer has had not only the pleasure of hearing about her well-being, but has conversed with her, and in this way convinced himself that she has made a good recovery.

Mrs. A. C.: Age, thirty-two; admitted in 1887 in a condition of excitement; was noisy, violent; sleepless and loquacious; thought her physicians had operated on her with magnetic needles, and was much annoyed by the belief that bugs and bees were swarming about her; had been insane but ten days before admission, and cause of attack was parturition. For the first two months she was rarely free from excitement; the third month she was more composed; ate well; slept well, and gained in weight. For the next two months she was very excitable, and at times noisy and violent; the sixth month she improved, and was frequently quite rational. This condition continued during the seventh and eighth months; but for a year after, she made very little progress toward recovery; talked much about "animals" and machinery. Became very tremulous, and slept poorly. In the second year of her sickness, she improved somewhat, and was taken up to the Catskills by her husband, but returned after a few weeks, as she could not tolerate the noise made by her child. Wanted "the screeching thing killed."

During the fourth year of her stay in Bloomingdale, she made several attempts to take her life; she was much annoyed by facial eczema, and by various uterine disorders; and several surgical operations were required for the removal of polypi. She improved slowly, until it was thought safe, during the summer of 1883, six years after admission, to send her to the Country Home, maintained by the Hospital. There her con-

valescence was fully established, and she was able to return home perfectly well. She gave no evidence of mental deterioration; took up her duties as mistress of her household, and has remained well since.

I have not gone back fifty or sixty years in the history of this Institution or studied the records of hundreds of cases that have been treated here, but have contented myself with reporting only those that have at one time or another been under my personal care. I have, however, reason to believe that more remarkable recoveries than those I have called to your attention have gone out from Bloomingdale. Naturally, the question that arises concerning such cases is whether they bear crippling evidences of the brain storms through which they have passed, and the answer is that they may be, and frequently are, less strong mentally than before their sickness. This was the case with several of my patients; but it was not sufficiently manifest to be observed by those they met in the ordinary walks of life; and I think, that only a person knowing their histories, and trained to observe such cases, could detect any change. Some of these, or all, may possibly relapse. I do not anticipate it; but even in that event, I think them worth reporting. I feel that they teach a useful lesson, and I hope that you agree with me. In a specialty that brings us in contact with so many forms of absolutely hopeless disease, there is danger of becoming pessimistic; and in making this record, I have tried to advance an argument against the premature abandonment of hope.

INCIPIENT MELANCHOLIA; ITS DIAGNOSIS, PROGNOSIS AND TREATMENT.

By JOHN PUNTON, M. D.,
Kansas City, Mo.

I desire at the outset to acknowledge my appreciation of the courteous invitation extended me by your committee to address this august body of scientific gentlemen, and assure you that I deem it a great honor to be thus privileged.

In contemplating a theme that would be worthy your consideration, I concluded to invite your attention to some remarks relative to the diagnosis, prognosis and treatment of incipient melancholia.

In the vast domain of practical scientific medicine nothing can possibly transcend in importance or exceed in interest the recognition in its incipient or curable stage of a malady fraught with such serious consequences as that of insanity.

Viewed from whatever standpoint, no other symptom or disease at all compares with this demon of the intellect in the terror it inspires, in the deep distress to relatives and friends, in the utter helplessness to the individual, as well as the serious havoc it creates in all business relations and social ties.

Its diagnosis, prognosis and treatment should therefore claim our constant and most earnest attention. During my early professional career it was my good fortune to be actively associated with the medical staff of the Central Illinois State Hospital for Insane located at Jacksonville, one of the largest and best equipped institutions of its kind in this country.

If there was one lesson more than any other that was indelibly impressed upon my mind by that experience, and since then even more forcibly emphasized by a much larger and fuller knowledge, it was the fact that the *curability of insanity largely*
ccclxxii

depends upon its early recognition. In other words, the longer its duration, the less the chance of recovery. This great pathological law which obtains in most diseases, is even of greater significance when applied to insanity.

Hence on admission of a patient to our hospitals, no question has greater prognostic signification than the one which pertains to the duration of the malady. Indeed the recovery of any given case largely hinges upon its recent occurrence.

Much, therefore, depends upon its early diagnosis as well as the enforcement of appropriate measures of treatment. In the voluminous annals of medico-psychological literature no truths are more often repeated and their importance urged with greater fervency upon the mind of the medical practitioner than are these referred to. Scarcely an annual or biennial report for the past twenty years has been issued from our numerous hospitals for the insane without their mention, and I venture the opinion that many gentlemen before me have dictated them for publication so often that in view of their barren results, are now tempted to give up in despair.

Nor is this surprising when experience proves that the true import of the early recognition of insanity, as well as the laws and principles which govern its successful management, are not always fully appreciated by the physician.

Consequently many a recent case, and presumably curable ones, fail to recover either through sheer neglect or ignorance on the part of the physician to properly interpret the significance of certain symptoms, or failure to early apply the appropriate methods for successful treatment.

It will, therefore, be the purpose of this paper to call attention to some features relative to the diagnosis, prognosis and treatment of incipient or simple melancholia, in the hope that they may receive official endorsement, and thus by their practical use tend to lesson the ever increasing army of incurables.

I am aware that Clouston* makes a somewhat vague distinction between incipient and simple melancholia, but at best it is so unsatisfactory from a clinical standpoint, that I prefer to regard the terms as synonymous, hence in the remarks which follow, their use should be thus interpreted.

*Clouston Mental Disease, 1884.

If insanity is an expression of some derangement of function or structure of the brain, or both these elements combined, by virtue of which the normal mental attributes of an individual are so affected as to lessen his power of controlling his thought, speech or conduct, then it would seem that, clinically speaking, the symptoms are the most essential elements for the physician to properly interpret, for these are simply nothing more nor less than the outward expression of some functional or structural change of the various bodily organs.

Now in the study of incipient insanity we find that the chief symptoms naturally divide themselves into two great classes, namely, first, those which present every gradation of mental depression or depressed state of feeling; second, those which present all degrees of mental exaltation or hilarious excitement.

On analysis you will observe that these also represent the two most common varieties of insanity, namely, melancholia and mania. It is to the former of these, however, that I desire more especially to call your attention.

A well established scientific fact demonstrates that the very large majority of all forms of insanity are preceded by some degree of mental depression, consequently this constitutes one of the chief clinical factors in most cases of incipient insanity.

"Observation," says Griesinger,* "shows that the immense majority of mental diseases commence with a state of profound emotional perversion of a depressing and sorrowful character."

Guislain, however, was the first alienist to elucidate this highly interesting fact and of its general correctness there can be no doubt.

Recognizing, therefore, that mental depression constitutes the chief clinical feature of most forms of incipient insanity, it may prove useful to consider some of its general characteristics.

Mercier† declares that the depression of spirits in melancholia has for its physical basis a low ebb of tension of the nervous energy, and that this physical condition has its physical effect in producing an undue lack of activity in all the bodily organs. "This reduced nervous tension seriously affects the visceral organs and nutritive functions of the nervous system which again is expressed by a marked inaction or want of vigor of

*Griesinger on Mental Diseases.

†Mercier on Sanity and Insanity.

their normal processes." Consequently a feeling of bodily illness is engendered which attracts the attention of the patient to himself and later constitutes the basis for various kinds of delusions. This morbid introspection or self-consciousness is a very marked feature in many cases of incipient melancholia.

The symptoms of incipient or simple melancholia, and those upon which our diagnosis depends, are, therefore, both physical and mental. The former are undoubtedly largely the cause of the latter, and when combined produce a syndrome of clinical phenomena which would seem to be unmistakable.

All authors agree that the mode of invasion of melancholia is rarely sudden, but is usually preceded by a period of incubation which varies considerably in duration and extent. During its presence the bodily changes gradually interfere with the functions of the higher brain centres, and it is worthy of remark that those which are the latest involved and consequently the latest organized, are the first to show symptoms of restrained or diminished energy. This reduction in power of the higher inhibitory centres allows the lower or egoistic feelings to rise and even dominate, and the patient under their controlling influence gradually becomes more and more selfish as well as indifferent to the rights of others, taking little or no interest in his family, friends or business, and thus he drifts along for a shorter or greater length of time until he ultimately becomes in every way an altered man.

The decline of the highest mental attributes and the rise of the lower, egoistic or subject consciousness has been shown by Blandford* to accompany all stages and varieties of insanity. But it is exceedingly well marked in incipient melancholia, and constitutes a diagnostic feature of one of its most common causes, namely, the insane diathesis.

This latter remark can be more readily understood when we remember the important rôle heredity plays in the production of melancholia. According to some authors this element exists in nearly sixty per cent. of all cases, and may come from either one or both parents or grandparents. Many a man, therefore, is prone to insanity by virtue of a faulty inheritance, and one of its dominating factors may be his egoistic, selfish tendencies, or the inherited predisposition may manifest itself by an ex-

*Blandford on insanity.

cessive dread or fear of objects or places, thus constituting one of the different phobias.

When an individual possessing such a birthright is exposed to the common causes of insanity such as severe mental and physical strains, reverses in business, loss of property and friends, masturbation, sexual excesses, religious excitement, anxiety in any and all its forms, deficient elimination and excretion of the toxic products of the body, intemperance, peripheral irritations, accidents or injuries, injudicious education, or, indeed, any other cause that tends to weaken and depress the nervous system, the physical and mental symptoms of incipient insanity are readily induced.

The early physical changes which often occur pertain to the appearance and attitude of the patient. Indeed, his whole physiognomy changes. His face which formerly bore evidence of animation now loses its normal aspect and presents the picture of despair. There is a marked feeling of lassitude and weariness which interferes with his every movement. The diminution of nerve energy interferes with the processes of digestion and assimilation, and the patient soon suffers from an impaired appetite and constipation supervenes. The action of the heart also is diminished in force and frequency, and the pulse becomes weak and irregular, which results in a lack of tone in all the bodily organs, producing a true neurasthenia.

Hence the patient becomes pale and haggard, and the body gradually wastes and loses its normal tone and contour. Loss of body weight is, therefore, an invariable accompaniment of incipient or simple melancholia. Most or all of these physical signs may exist in varying degrees of intensity in different cases, and produce changes in the mental constitution which have their corresponding symptoms.

The most marked mental symptom and that which overwhelms all the rest is the mental depression. It may be slight or profound, hence it presents all degrees, but it betrays its origin by invariably being more intense in the early morning. This is explainable on purely physiologic principles as the tide of nervous energy is at this time at its lowest ebb, as well as the nutritive and visceral functions. Hence it results in aggravating the depressed state of feeling. It is also most persistent

and usually out of all proportion to the assigned cause which at best is very unreliable.

Another common and constant mental symptom is insomnia. Like the depressed spirits, it presents all degrees, but is usually very persistent and rarely absent. This again induces a feeling of pain in the head which is technically termed by Clouston, "psychalgia." In many cases this persistent abnormal sensation does not amount to actual pain but is described as an abnormal sense of fullness or pressure which varies in intensity. This in turn leads to morbid introspection which is usually manifested by a lack of interest in near relatives and friends, and a positive dislike to former avocations and environments. When carried to its further degrees it constitutes actual delusions which, however, are not often an accompaniment of incipient forms of insanity, although they appear much earlier in the progress of melancholia than in mania.

The presence, therefore, of delusions aid us much in the diagnosis of its duration as they rarely appear at the commencement of insanity, but rather indicate that it has existed for some time and reached a considerable degree of intensity. As the disease progresses other developments arise which also serve as a basis for its classification into several varieties. Beyond the simple or incipient form of melancholia, however, all are complicated with symptoms which betray its advanced nature. The diagnostic criteria of incipient or simple melancholia may, therefore, be reduced to the following clinical symptoms:

First.—Mental depression presenting all degrees of depressed states of feeling.

Second.—Insomnia which may be slight or profound, but usually very persistent.

Third.—Headache or psychalgia which is commonly referred to the occipital region.

Fourth.—Loss of normal body weight, presenting all degrees.

Fifth.—Changes in attitude and physiognomy.

Sixth.—Impaired appetite with marked constipation.

Seventh.—Morbid introspection with selfish inclinations.

Eighth.—Morbid fear of objects or places, constituting the phobias.

When these symptoms present themselves in any individual and become persistent, whether the cause be known or not, they

constitute the actual presence of that form of incipient insanity known as simple melancholia. Moreover if these symptoms be recent in onset it constitutes one of the most curable of all forms of insanity. All important then is its diagnosis, as well as the employment of appropriate methods of treatment in this early uncomplicated stage.

In its most advanced stages it becomes complicated with other symptoms which renders the prognosis much more unfavorable. These consist in the various forms of delusions, hallucinations and illusions, as well as incoherence, stupor, excitation, epilepsy, suicidal and even homicidal impulses. Moreover in its chronic stages it may even pass into mania, dementia or other severe forms of insanity.

A point worthy of emphasis is that while melancholia in its uncomplicated stage is the most common of all forms of insanity, it nevertheless is, perhaps, the most curable.

Unfortunately on account of it being the sanest kind of insanity too often its presence is mistaken for some less serious condition and the patient being able to plead his own cause in a rational manner is allowed the benefit of every doubt until serious complications arise which greatly hinder the chance of recovery. During this period the patient often drifts from one physician to another, and at the unwise suggestion of friends becomes the victim of the unscrupulous quack and charlatan.

On the other hand, when a correct diagnosis has been made, and the gravity of the situation fully realized by the attending physician, occasionally a serious complication occurs when the prescribed process of law is appealed to in order to properly provide for the patient.

The following case will serve to illustrate what I mean: A few months ago Mrs. F. was referred to me by Dr. E. for diagnosis. After having the patient under observation long enough to satisfy myself of her true condition, I made a diagnosis of insanity, and signed a certificate to that effect, at the same time urging her husband to place her under surveillance and other measures of treatment. After returning home, he attempted to carry out my instructions which she vigorously resented, and claimed to her friends and neighbors that it was a scheme or conspiracy on her husband's part to get rid of her, and that he had called on the family doctor to aid him in carry-

ing out his evil purpose. Her neighbors believed her, and the husband and doctor were criticised severely, consequently their efforts for the time being were abandoned, and the patient was given the benefit of the doubt.

It was with no amount of surprise that I read in a daily newspaper a few days ago the following telegram: It was headed, "She Proved Herself Sane." "Last week Mrs. F. was tried for her insanity. Her trial lasted six days and during that time she appeared so rational that the jury declared that she was sane. Immediately after her trial, she became a raving maniac. She attempted to kill herself and threatened those around her. She was tried again yesterday and declared insane." (*Kansas City Star*, March 25, 1898.)

Herein lies one of the greatest evils of the present jury system wherein competent medical testimony is made subservient to a jurymen's crude knowledge of insanity.

This also leads me to remark that our laws are sadly deficient in recognizing the claims of the insane as demonstrated by the teaching of modern medical science. Just so long as we sit idly by and allow the legal ruling of a court to decide that because a man knows right from wrong he is necessarily mentally responsible for his actions, can we expect our special knowledge to be ignored, and consequently fail in our mission to impart justice, mercy and protection to those who by virtue of their insanity are unable to defend themselves. All authorities agree that simple melancholia is a very curable disease providing appropriate measures of treatment are early enforced.

Clouston claims that out of one thousand cases admitted to the Morningside Asylum forty-five per cent. recovered. This included all varieties of disease but if only the simple cases were reckoned the ratio of recoveries would greatly exceed this.

When the diagnosis of simple melancholia has been made and the value of early appropriate treatment fully realized, the question often arises, "What course is best to pursue in order to properly provide and insure its successful issue?" There are three recognized avenues open to the physician to select from for his patient, which vary considerably in cost and relative merit:

The first pertains to the treatment of the patient at his own residence.

The second by sending him to a general hospital or insane asylum.

The third to his removal to a private home or sanitarium.

The choice of either of these is largely determined by two factors: first, the financial ability of the patient; and second, failure on the part of physician or friends consenting to his removal from home for treatment. Experience proves that the probability of recovery is always much increased when isolation from home can be enforced. In most cases the conditions of home life in which the disease has developed are not conducive to recovery. A wise change of scene and environment is, therefore, an important aid to recovery.

Moreover I have often made the effort to treat such patients at their own homes and to isolate them there, but I have rarely done so without promising myself that I would not again complicate my treatment by any such embarrassment.

There is a curious sort of morbid delicacy and prejudice in the public mind concerning insanity, which seems to associate shame and disgrace with mental disease, and often hinders the early application of the important principle of isolation.

If for any reason, however, the patient cannot be removed from home, the next best thing is to set apart a certain portion of the residence and convert it into a temporary hospital by the adoption of hospital rules and methods.

Unfortunately persons suffering from melancholia are sometimes referred to general city or public hospitals for treatment. In my judgment such hospitals are not at all suited for the successful treatment of such patients. The daily routine of surgical operations and dressings, with all their attendant sufferings and anxieties, are not conducive to the well-being of melancholiacs. Moreover there are some very good reasons why persons suffering from simple melancholia should be spared the State insane asylum.

It has for some time been my conviction that the environment of a State asylum is not the best for the cure of simple melancholia. My experience proves that what is most needed for them is a thoroughly sane atmosphere and surroundings. This is almost impossible at an asylum. There is apt to be a limited number of attendants, and the noise and disturbance of the less fortunate inmates seen and heard on almost every hand, prove

detrimental to their recovery. But the chief objections to State asylum care for such patients is the great expense necessarily involved in their proper care and management on the one hand and the stigma associated with their committal on the other.

Of all insane patients those suffering from simple melancholia are the most expensive to properly provide for, as they require so many special privileges in the way of environment, diet, amusement, employment, nursing and medical treatment. The unwritten law of equality which is so jealously guarded by every American citizen prevents the toleration of special privileges at public expense. The immense number of patients compels the utmost economy of administration in the large asylums, and the superintendent who undertakes to disregard this rule is speedily dispensed with, for the constant cry of the average politician is to cut down expense irrespective of special demands.

In addition to this we cannot ignore the prevalent but mistaken notion that in committing a patient to the asylum we are branding him with a stigma of disgrace which can rarely be effaced. In view of such facts, the great need of to-day for patients suffering from simple melancholia, it seems to me, is treatment at private homes or sanitariums built expressly for the care and treatment of the acute insane, which should be under State supervision. These could properly be termed "detention hospitals," where the patient could remain under suitable medical surveillance and treatment until such time as the question as to its curability or incurability could in great measure be determined.

Such hospitals should be equipped with all the modern medical appliances necessary for their proper care and no amount of expense should be spared to supply them the requisite diet, environment and medical skill. Nor should any but recent and presumably curable cases be eligible for admission, and the number limited. In this way many persons who now refuse State care would gladly accept it.

No doubt to some such a proposition seems practically impossible and wholly unnecessary, but I believe there is a growing need for half-way hospitals, that separate the distance between the home of the patient and the insane asylum, and where the question in doubtful cases of its curability can be fairly tested. As it now stands many a curable patient is deprived hospital

treatment because of certain superstitious beliefs concerning insane asylums, which all through the centuries has failed to be effaced.

Unfortunately these false notions concerning asylums and the insane are not confined solely to the laity but prevail to a large degree among the members of our profession. Many a physician believes that insanity is incurable from its inception, and refuses to apply the necessary and appropriate restraint for his patient. Only a short time ago in conversation with a superintendent of one of our large State asylums, concerning the curability of insanity, he said he had "little faith in its curability." I asked him why and he replied that they were all degenerates from its inception, which rendered their cure improbable. What a contrast there is in this remark and that of another later superintendent of the same institution, who told me that out of the six hundred chronic incurable patients under his care, "more than half of them were there as the result of serious blunders on the part of physicians failing to recognize the importance of early appropriate treatment." Again, others fail to receive appropriate treatment because of their family pride, while still others believe that because of its hereditary nature it cannot be recovered from. Experience proves, however, that heredity is not a bar to speedy recovery, but simply renders the patient more vulnerable to a relapse.

Time will not permit further enlargement, although much might profitably be said in regard to its medicinal treatment. If the basic element of melancholia is one of malnutrition, then our efforts must be directed to the correction and maintenance of a healthy and proper blood supply to the brain and other dependent trophic deficiencies.

The means by which these ends may be secured are the following:

First.—By moral persuasion.

Second.—Use of drugs.

Third.—Hygienic measures.

Fourth.—Mechanical appliances.

Fifth.—Surgical operations.

The manner in which these principles are applied furnished a

theme for a former paper.* But they are so well known to you that to allude to them at this time is all sufficient.

In conclusion, I desire to add that if I have succeeded in calling your attention to a subject which would seem to demand our most earnest and serious attention, the intrusion on your patience and time will not have been made in vain.

*See paper on "Treatment of Melancholia," by author, in *Alienist and Neurologist*, January, 1894.

NERVE-CELL CHANGES IN SOMATIC DISEASES.

By AUG. HOCH, M. D.,

Pathologist and Assistant Physician, McLean Hospital, Waverley, Mass.

We undertake pathological-anatomical studies in the field of psychiatry to find alterations in the central nervous system, as the structural basis of the altered functions that we see clinically. These changes we must expect to be characteristic in different diseases; and clinical, as well as pathological studies, both mutually assisting each other as much as it lies in the power of each, should aim at finding and circumscribing definite disease processes.

The portion of the central nervous system, which we have to study above all others, is naturally the brain cortex, and what we have to develop is, therefore, a pathological anatomy of the brain cortex. It is well to have clearly in our minds, however, that a pathological process does not consist in alterations of one element alone, such as in our case of the nerve-cells, or even of the entire neuron, but that in order to study it, we must study all the constituents of the tissue we are dealing with. But before we can do this successfully, it seems to me, a great amount of study must yet be devoted to the changes in the structural details, which are revealed by each individual method, in order to be able to correctly interpret our findings. Among these details the internal structure of the nerve-cells, so far as we can study it with Nissl's method, is undoubtedly one of the most important in the pathology of the brain cortex.

Last year, while occupied with the study of post-mortem alterations in the nerve-cells in Nissl's laboratory at Heidelberg, I was impressed with the frequency with which changes were

found in the cortical nerve-cells in cases who had died of the most varied diseases, and recognizing the importance which a thorough knowledge of the possible changes occurring in somatic diseases must have for our interpretation of the findings in brains of the insane, I paid special attention to these. A part of the work was done in Heidelberg, the greater part in our laboratory at the McLean Hospital. And I wish to thank here Dr. Nissl for his constant kindness in instructing me in many ways and in giving me much valuable advice.

The time allotted does not permit me to speak here of more than one cell alteration, namely, one which we may call *cell-shrinkage*, and even this I shall only be able to describe in its most important features. I have chosen this because I am able to make definite statements as to its cause, having studied the alteration experimentally as well. It is a change which occurs frequently and in the most varied diseases, and it is, therefore, important that we should be familiar with it and know its origin. This is at times very difficult in nerve-cell changes, for we must admit the possibility of the occurrence of more than one typical alteration in a specimen, and it is, therefore, necessary to know whether different appearances in different cells are accidentally present in the same specimen, *i. e.*, whether they are the expression of two different noxæ or whether they belong fundamentally together. We are able to clear up this question to a certain extent by seeing a large number of cases. If we find in different cases constantly returning in the larger cells, for example, a certain abnormal appearance, in the smaller ones a different, but an equally typical alteration, we have some reason to consider the two as not occurring accidentally together, but as having some fundamental relation with each other. Experience with a number of cases will, therefore, be of some value in defining and characterizing a certain cell alteration, and we can even go somewhat farther; by noting in what kind of cases the alteration occurs, we may obtain certain hints as to its true origin. But that is as far as our mere interpretation of our findings will lead us, and it is at this point that the experiment has to come in, for only by the aid of experiments may we be able to determine with absolute certainty the common origin of apparently different changes in different cells, and above all the cause of the cell alteration. The necessity of

such a gradual advance, and the importance of not drawing conclusions too quickly, is constantly impressed upon us in the study of nerve-cell changes.

The cases in which the cell alteration was present were two cases of myo-degeneration of the heart, one case of ecchinococcus of the liver with perforation into the abdominal cavity, one case of advanced tuberculosis and one case of tubercular meningitis.

The most striking cell alteration in the specimens from these cases is one which is found chiefly in the medium sized and smallest pyramids, as well as in the cells of the fifth layer; the external appearance of the cell is changed, inasmuch as it appears distorted and shrunken, the contours of the cell-body between the processes are often greatly retracted, so that a part of the cell-body at first sight appears to be a part of a process. The processes may appear as deeply stained, fine, sharp lines, which can be followed for some distance, or they may be somewhat crumbly looking or broader, and then may show some indications of a honeycomb structure, or again present a crumbly appearance. Sometimes the processes are wavy in their course. The shrunken cell-body, which as a rule looks dark, shows a well-marked honeycomb structure, which pervades equally the entire cell and is present in the centre as well as in the tapering portions. The apical processes may also show indications of this structure and sometimes, especially in the larger samples, this may be very well marked. After some distance from the cell they often appear grayish and rather crumbly looking. The nucleus is darkly stained, diminished in size and often distorted, being drawn out in one direction, and in the dark cells the outline cannot be made out, and in most cases a nuclear membrane is not visible. It appears in the Nissl preparations entirely homogeneous. The nucleolus is sometimes enlarged, often has a peculiarly oval shape and may occasionally be somewhat paler than normally, but never shows a purplish hue. Not infrequently it has an eccentric position, sometimes lying in a drawn-out portion of the nucleus; sometimes the nucleus contains folds. The honeycomb appearance is not always equally sharp in the cell-body; in the very smallest pyramids of the second layer it may be very pale and crumbly looking, and we can often only speak of an indication of the honeycomb structure, and the nuclei may be egg-shaped and not distorted,

but they are always diminished in size and homogeneous, while the nucleolus appears here usually normal. In the honeycomb structure no special arrangement can be discovered, and usually there is no evidence of tracts, such as are seen in the normal cells, and only now and then can we see indications of them at the beginning of the basal processes, namely, a small lighter line. *This is the typical cell-shrinkage.* Cells, which also correspond in every respect to those just described, may be seen among the larger pyramids, but the honeycomb structure here is usually less coarse. Again we may among these cells see samples in which a fine, rather paler honeycomb structure is present without apparent shrinkage of the cell-body; the transition from the substance of the cell-body to the pale, sometimes perfectly homogeneous nucleus is then very indistinct. While the smaller pyramids and the cells of the fifth layer show in all our cases the same alterations, the larger pyramids may, therefore, be either the seat of the typical shrinkage with all its attributes, or present a honeycomb structure with preservation of the cell shape, such as we have just described; but usually the larger samples, and above all the largest pyramids (not the motor or Betz cells) show an alteration, which has a very different appearance.

The cell-body apparently may not be altered in its external appearance, but not infrequently it looks more rounded at the base than normally. The normal design of the cell is altered. Stainable substance is seen at the base and at the sides; sometimes there is a continuous more or less compact or more or less crumbly looking rim of darkly stained substance extending from one lateral aspect of the cell down to the base and again up on the other side of the cell for some distance. In other instances there is not a continuous rim, but a number of separate crumbly looking substance portions, and in some instances the altered axis cylinder is seen to pass through the stainable substance. Inside of this darker stained substance the cell looks a pale blue and it appears as if there was a pale blue ground with faint darker stained amorphous substance strewn over it; nevertheless the whole makes the impression of a light, not infrequently dirty blue substance, sometimes the transition from the darker substance of the periphery to the lighter substance of the centre is indistinct, a feature, which together with

the indefinite nucleus gives to the interior of the cell a peculiarly effaced appearance. At the base of the cell we scarcely ever see tracts; the basal processes have usually a crumbly appearance without any design, whereas the apical process may look strikingly normal, and even the portion of the cell-body near the apical process may show well-marked spindles with normal looking tracts between them. In other instances the spindles may look riddled or somewhat broken up. In the smaller cells the apical process has an even gray appearance, and is not seen further than it would be normally. Very characteristic is the nucleus; in most instances, as has already been indicated, the transition from the light substance surrounding the nucleus to the nucleus itself is very indistinct, because no visible membrane is present and the interior of the nucleus shows no trace of a sharp design, but at most an indefinite mottling and certainly nowhere light places. When we stain the nuclei with Weigert's method for mitoses the appearance is perhaps even more characteristic, the nucleus appears of an even gray, with fine, more or less indefinite dots irregularly distributed; there is no visible membrane and the outline often wavy. Sometimes the nucleus may be diminished in size and in the Nissl preparation look absolutely homogeneous; the nucleolus appears unaltered in these cells.

If we stain the nuclei of the typical shrinkage cell with Weigert's method, we find that the smallest distorted nuclei look very dark, show no membrane and no design, whereas the larger ones show in every way a striking resemblance to the nuclei of the larger cells just described; we shall return to this later.

Finally it remains for us to describe some special forms, which are not present in all, but only in two cases. The cells may be compared to vesicles. Around the nucleus we find a more or less narrow rim of crumbly looking substance, surrounding this a space, at the periphery of which we again find an accumulation of crumbly looking substance. Sometimes we find especially darkly stained substance accumulated at the origin of a basal process. The nucleus may be perfectly homogeneous, or it may be pale, it may show an indistinctly spotted appearance with a fairly distinct membrane, or finally the design of the nucleus may appear distinct and the membrane well

marked. The common feature in these different cells is, therefore, the vesicular, balloon-like appearance of the defective cell-body. The processes of these cells are usually seen for a very short distance, they are crumbly looking, but sometimes show a distinct honeycomb appearance. These cells are only found in the upper layers of the cortex.

In the whole description of the nerve-cells we have not spoken of the large motor cells, but since the specimens in most cases were taken from the paracentral lobule, they could be studied in four of these. Most of these cells are perfectly normal, in some, however, there is a more or less well-marked rarefaction of the Nissl bodies around the nucleus, whereas the nucleus itself even in those cells, as a rule, cannot be said to be definitely altered; in one case it was found in a number of instances to be diminished in size, a little distorted and stained more evenly and deeply than normally.

We see then that we find in every instance the typical shrinkage, and in four cases numerous samples of the second alteration, which, for the sake of brevity and in want of a better term, I will call the alteration with rarefaction around the nucleus, but even in the fifth case we find indications of this same change, and the fact that it does not occur in more cells may be easily explained by the circumstance that even the larger pyramids are here the seat of typical shrinkage.

For the reason that we find these two changes associated together in a fair number of cases, I have concluded that probably they have some fundamental relation with each other, a conclusion which is strengthened by the similarity of the nuclear change in both, especially as brought out by the method of Weigert for mitoses. Besides these two changes we have in two cases met with what we called vesicular cells. It was from these latter that the information as to the origin of these changes came. It appeared not unlikely that these vesicles may be produced by edema and the consequent rapid extraction of the water by strong alcohol. Experiments were, therefore, made in the following way: A piece of a rabbit's cortex was immediately after decapitation placed into distilled water for from twelve to twenty-four hours and then hardened in alcohol; later the same was done with normal salt solution. The result was striking; two cell alterations appeared, one of which may be

briefly described as follows: The nuclei are round and have well-marked membranes, the design is not very distinct, the nucleolus normal; the cell-body is enlarged, its substance is crumbly and either fills the cell-body completely, or, what is much more common, large spaces are found in it, the whole cell having a vesicular or balloon-like appearance. Crumbly substance is present around the nucleus and at the periphery of the vesicle, while bands of crumbly looking substance may extend from one place to the other. The nucleus may appear swollen; this alteration is not present in any special cell form, but may be found in clusters of cells, and in one place a whole streak of them was found to extend down from the upper portion of the cortex into the lower portion. The other form I need not describe, it corresponds in every detail to the typical shrinkage, with the exception that the whole cell shape looks somewhat different from the cells of the human cortex, but the shrunken appearance with the honeycomb structure, the sharp or crumbly looking processes, seen at a greater distance than normally, the homogeneous, shrunken nucleus sometimes with an enlarged, often oval nucleolus, all correspond so closely to the changes above described that there could be little doubt as to the common origin of both. Nevertheless the last link in the chain of evidence had to be furnished by experiments upon the human cortex; such experiments were made, but we must remember how rare it is to obtain a normal cortex, and, as a matter of fact, I have not been able to make the experiment in a single instance in which the cortex was normal. The result was, that it was not possible to produce the alteration in every instance. Sometimes pictures appeared, which must possibly be interpreted as modified shrinkage, but this is not yet clear; in two cases, however, *pictures were obtained which could in no way be differentiated from the typical shrinkage in my other cases.* In these cases also the nerve-cells were not normal before the experiment and the conclusion suggests itself, therefore, that on the one hand there may be alterations in the nerve-cells which prevent the occurrence of the typical shrinkage; thus it seems, for example, that whenever we have the "acute alteration" the shrinkage does not occur;* on the other

*Cf. for the character of the acute alteration: "On changes in the nerve-cells of the cortex in a case of acute delirium and a case of delirium tremens." *Journal of Insanity*, April, 1898.

hand, if we may reason from the experiments on rabbits, that when the cells are normal the shrinkage occurs invariably, and finally that there are certain changes in the nerve-cells which do not prevent the occurrence of the shrinkage.

The alteration with rarefaction around the nucleus was not found in the specimens of human cortex treated with salt solution, a circumstance which, however, cannot be considered as proof against the assumption that this alteration has some fundamental relation with the typical shrinkage, because it is not to be excluded that the cell changes already existing prevented its occurrence. Nor do the experiments on the rabbit's cortex furnish any data in that respect, since the large cells, in which the change chiefly occurs, are not found in the rabbit's cortex. We have, therefore, not a proof that this alteration is related to the shrinkage, although, as we have stated, the occurrence of both in a number of cases and the similarity of the nuclear changes in both, make this probable. Further experiments are necessary upon this point.

Another interesting point, which was revealed by these experiments, concerns the cells which I have above called vesicular cells. The resemblance between some described from the sections of some cases and those produced experimentally, is very striking; here and there we have round nuclei with good membranes, and here and there the vesicular appearance of the cell-body, whereas in others it is only the vesicular appearance of the cell-body, which bears some resemblance to the cells produced experimentally, while the nucleus is very different. It is interesting to note that neither in all experiments on the rabbit's cortex nor in all cases the vesicular cells appeared. The conclusions, which we can draw with reference to these cells thus far, is that they very probably have also in some way a common origin with the shrinkage cells; at any rate we know that the balloon-like appearance of the cell-bodies can be produced by the conditions furnished in the salt-water experiment. Why at one time the one, and at another time the other cell change occurs, we have no means to determine; it is a feature which puzzles us both in the cases and in the experiments. It cannot be denied further that among the vesicular cells with homogene-

ous nuclei we are able to see transition forms to the shrinkage cells, and we may possibly have to conclude that the special conditions, which produce the vesicular change, may act upon cells which have already undergone a change in the direction of the typical shrinkage, or upon cells in which the change has not yet taken place. I should add that I have seen appearances very similar to the vesicular cells with homogeneous nuclei in experimental post-mortem changes. We see, therefore, that it is impossible to settle the question definitely, at the same time we cannot deny that the experiments have thrown some light upon it.

The circumstance that the large motor cells show so little alteration is interesting in connection with the fact that in an experiment in which a piece of the rabbit's spinal cord was put for twenty-four hours into normal salt solution, the motor cells were unaltered; it seems that these cells are much more resistive to various noxæ than the other cells.

We have, therefore, been able to shell out, as it were, from the numerous appearances, which bewilder us, when we study the changes in the cortical nerve-cells, a number of special alterations and we have been able to bring those into some relation with each other. We have furthermore found that we can with certainty produce experimentally one of these changes, and at least some features of another. This furnishes us information as to the origin of the changes. What we have done in the experiments was to produce the changes by giving rise to conditions similar to oedema, and we infer, therefore, that to oedema of the cells, an important causative influence must be attributed in the production of these changes. The fact that the cases, from which the specimens were taken presented conditions favoring the occurrence of oedema, is also well in accordance with this assumption. Another influence is exerted undoubtedly by the rapid extraction of water, which the strong alcohol used in the process of hardening must produce. But since we have brought about this change experimentally, not in the living brain, but in the brain after death, we must infer that the alterations are due, not to vital but rather to mechanical changes, and we must, therefore, regard the appearances, which we have described, somewhat in the manner of artefacts. This is not the place to speak of the significance which the appearances

above described may have for the structure of the normal nerve-cells, nor can we more than indicate the difficult problem which arises from the possible combination of this with other changes. The chief point which we must yet call attention to is, that whenever we meet these alterations in our studies of the cortex of the insane, we know that they have nothing to do with the disease process of the psychosis, for we know now their significance. This last conclusion contains the bearing which the study of nerve-cell changes in somatic diseases has upon our studies of disease processes in the field of psychiatry.

MEMORIAL NOTICES.

WILLIAM PALMER JONES, M. D.

By JOHN A. BEAUCHAMP, M. D.,
Nashville, Tenn.

William Palmer Jones, M. D., was born in Adair county, Kentucky, October 17th, 1819, and died at his residence in the city of Nashville, September 25th, 1897. His father, William Jones, of Welsh descent, was a native of Lincoln county, Kentucky, and died in Adair county, Kentucky, in his forty-second year. His mother, *nee* Mary B. Powell, a daughter of Robert Powell, a farmer, and a major in the army of the revolution, was born in Virginia. Her mother was a Miss West, a relative of the family of the distinguished portrait painter, Benjamin West. There is an aristocracy of birth, an aristocracy of training, and an aristocracy of worth. The subject of my sketch—one of the people—had all of these attributes in high degree, but most especially the last.

His mother, left a widow, with nine children dependent upon her, devoted herself with all her grand principles of motherhood to their care until her death in Bowling Green, Kentucky, in 1851, at the age of forty-five. That she was a true mother, the subsequent career of her noble son well shows, and he, the surviving member of that large family, in his integrity, in his sincerity, in his zeal in behalf of all that he deemed right, in his many virtues demonstrated in both public and private station, in his justness, and in his charity and love for his fellow men, showed most plainly that his training and discipline were received at the hands of God's grand masterpiece—a true woman.

His literary education was limited to occasional attendance, when time and means permitted, upon the "old field schools" of Kentucky, but with the indomitable will of a most earnest nature, he made the best of his limited advantages, and mainly by his own efforts attained a literary recognition of which anyone might justly feel proud. Alternating his work upon a farm with educational pursuits, before attaining manhood, he determined to take up medicine as his life work, and after two years' office tutelage under the care of Dr. T. Q. Walker, he attended one course of lectures in the Louisville Medical College, subsequently receiving the degree of doctor of medicine from the Medical College of Ohio, at Cincinnati, and also from the Memphis Medical College.

He commenced the practice of medicine in 1840, in Edmonton, Kentucky, before he was twenty-one years of age; later in the same year he moved to Bowling Green, Kentucky, where he remained until 1849, when he came to Nashville, Tennessee, and where for nearly a half century he led an eventful and most emulable life. His name has been an honored one in the American Medical Association, in his State, county and local medical societies, in the American Medico-Psychological Association, in the American Association for the Advancement of Science, in legislative halls both State and municipal, in the councils and assemblages of his church, and in the hearts and minds of a host of admiring friends both of his own and opposing political opinions.

At no time of his well rounded life a professional politician or a partisan, he had the courage at any and all times to boldly, tersely and succinctly state his political views in regard to municipal, State or National questions. A personal acquaintance with Mr. Clay, together with an appreciation of the conservative measures of the old Whig party, caused his alignment therewith until its disintegration. Though having a property interest in slaves, acquired by inheritance and marriage, he in no way encouraged the late rebellion of the southern States, but throughout the four years of internecine strife was a staunch supporter of the Union, affiliating from that time with the Republican party, but being throughout so conscientious in his independence as to vote for just such men and measures as his calm, cool and deliberate judgment would justify. In 1862,

being a member of the municipal council, he was chosen its president. In 1873, receiving the nomination from the Republican party, he was elected by a large majority to represent the Nashville district as State Senator. His great work here was in behalf of a free public school system, being active in procuring the passage of the State's beneficent public school law—which provides for "equal educational advantages for all the children of the State regardless of color, race or previous condition," but in separate buildings. Measures looking to the integrity of the State's credit, and anything that in his judgment would result in the greatest good to the greatest number of the State's citizens received his earnest and hearty support. He introduced and secured the passage of the law establishing two hospitals for the insane in the State, one in the eastern and the other in the western divisions. Prior to his legislative services, he was mainly instrumental in securing the necessary legislation establishing an insane asylum for the negro, the first of its kind in the world.

In May, 1877, he was appointed by President Hayes postmaster of the city of Nashville, and was re-appointed by President Arthur, October 28th, 1881, filling this responsible position most satisfactorily for a little over eight years, serving under four Presidents—three Republicans and one Democrat. Upon receiving his first appointment, before he applied to any of his political or personal friends to go on his official bond—one of six hundred thousand dollars being required—a prominent and leading Democrat, one who stood high in the councils of his party, of ample means, came to him unsolicited and volunteered his services as bondsman. His conduct of the office was all that a well-balanced mind, cool head, calm and deliberate judgment, controlled by all the principles of strictest integrity and unswerving justice could possibly make it. The net earnings of this postoffice increased almost three-fold during his administration, at the close of which he retired to private life with the highest degree of esteem on the part of every official connected with the office, and the large clientele dependent upon it for mail facilities.

He was for a number of years a most valued member of the State Board of Education, and could have had the nomination of his party for Governor of the State when it was successful

in the election of the Hon. Alvin Hawkins. Of his political life it might have been said, that he was so true to his convictions of right, and so unswerving in his integrity and honesty of purpose that he not only made friends in his own party, but in others as well.

Of his medical life, I may say that he was a most worthy follower of that grand apostle, Luke. Kindly, lovable, generous, humane and just, speaking evil of no one, he had a high appreciation of the divine art of healing. As a general practitioner, he was not aggressive in seeking business—feeling the responsibility of his calling to that degree that he deemed it well to wait for business to come to him. His professional work while engaged in the practice of his profession in Nashville, as in the days preceding it, justly entitled him to the commendation, “Well done, thou good and faithful servant,” and he received a most fitting appointment at the hands of the Governor of the State and the trustees of its grandest charity when he became superintendent of the State Hospital for the Insane in 1862. Here was done some of the grandest work of his life. Having charge of the most unfortunate of his race, during the time when the terrible storm-cloud of civil war not only overwhelmed his State, but brought its struggling armies to the very doors of the institution of which he was in charge, he so discharged his duty and was so faithful to his great trust as to receive the highest commendation of trustees, legislative committees, and the many of our most prominent citizens who had a more than personal interest in the institution. His service gave entire satisfaction to his financial supervisors and the legislators of all political parties.

Just before the close of his first term of service, he received a most serious injury at the hands of a patient—a man of prominence in his State during his days of reason—and who had been an inmate of the hospital for more than a decade of years. Without having previously manifested the slightest degree of violence, unexpectedly and without the slightest indication of excitement, this patient struck his physician and friend a most violent blow on the head with a heavy water-pitcher, felling him to the floor. The injury resulted in a paralysis lasting over two years. During this time of invalidism, his original term having expired, he was, without opposition, unanimously re-

elected for another term—yet feeling that he could not accept this from a sick-bed, the length of confinement to which could not be predicted, he tendered his unconditional resignation of a trust which he had so faithfully discharged. During his services as superintendent of the Tennessee Hospital for the Insane, he was a regular attendant at the meetings of the then Association of Superintendents of American Institutions for the Insane. The records will show his work, and it needs no commendation at my hands. After relinquishing his important position, after yielding up his great trust, with a clean balance-sheet, he did not again enter into the active duties of professional life, but afterwards, as in earlier days, showed his high appreciation of all that pertains to the science and art of medicine.

In the organization of Shelby Medical College in this city in 1858, an institution which succumbed to the inevitable storm of civil war only three years later, he was a most important factor and held the chair of *Materia Medica* and Therapeutics. He was a most able member of a most able faculty, and the graduates, some of them living to-day in active practice, all regarded him as teacher, friend and elder brother. In 1878 on the organization of the Nashville Medical College, which subsequently became the medical department of the University of Tennessee, he was elected as president of the faculty and held for a number of years the important chair he so well filled, of Psychological Medicine, Public Health and Hygiene. His active duties as professor, he was compelled to relinquish after some ten years' service, owing to other pressing duties and advancing years, yet he remained fully identified with the school and president of the faculty until the day of his death.

In literature Dr. Jones was not as voluminous a writer as some of his contemporaries, but in the printed pages of the past, his writings, free from chaff, waste straw, verbosity and useless matter, will always be recognized for the material grains of truth, thoroughly threshed out and carefully winnowed. Two of his contributions to the Tennessee State Medical Society will always be regarded as among the most classical productions of that honorable and meritorious organization. His two papers in the transactions of the Tennessee State Medical Society are, on "The Necessities of the Insane in Tennes-

see," and on "Adequate and Impartial Provision for the Insane of the State." His concise hospital reports, and his regular reports to the trustees of the Hospital for the Insane, his work as associate editor of *The Southern Journal of Medical and Physical Sciences*, his labor as the originator and editor of *The Parlor Visitor*, all mark him as one who stood at the head and in the front rank of a State noted for its literary and scientific men. In imperishable printer's ink, his discharge of duty is most admirably set forth.

Of his Christian life, it can be said that in early youth he identified himself with the Baptist church, and from boyhood until he had attained more than three score years and ten he was ever found a conscientious Christian gentleman, showing his faith by his deeds, an humble but most eager worker in the Lord's vineyard. Not effusive, or vehement, he showed rather by example than precept, that in this as in all things else he was honest, true and sincere. He was often a delegate to the representative assemblages of his church, and held for years an honorable position in the deaconate of the First Baptist church of Nashville. The following extracts are copied from the *Baptist and Reflector* from the oration delivered by its pastor, on the occasion of his funeral:

"He was strong in his knowledge of divine truth, and in his ability to teach and defend it. He was always able to give a sufficient reason for the hope that was in him.

"He was strong in his deathless devotion to great principles. His character rested upon a foundation of immutable and eternal verities.

"He was strong in courage. He stood unflinching by his convictions. He dared to do what he believed to be right in the presence of any opposition or danger. * * *

"His brethren will carry to their graves the recollection of the last public religious service in which he participated.

"He made the closing prayer at our last Wednesday evening meeting. It was a prayer of rare beauty and pathos; a prayer in which he expressed the deepest and tenderest solicitude for the spiritual welfare of every member of the church; a prayer in which he seemed to see the angels of God 'ascending and descending'; a prayer in which he seemed to have a vision of the glorified Christ and the 'rainbow and His throne.'

"From that prayer-meeting he returned to his home, and there gathering the loved ones around the family altar, he commended them for the last time to God's guiding and keeping care. The eloquent and convincing testimony to the fervor, consistency and uniformity of his Christian life comes from the lips of his own dear wife and children. One of them said, 'His example of fealty to his Christian faith and principles is the richest legacy he leaves to his household.'

"I had seen more of him than any member of the church. He came often to my study to discuss with me new means and methods for advancing the Master's cause. Last Tuesday afternoon (only four days before his death) he came and we exchanged thoughts about heaven. He expressed the hope that, up there, under better conditions and in a vaster field, he might be commissioned to perform some service in which he could more adequately express his appreciation of God's infinite love and mercy to his soul."

JAMES OLMSTEAD, M. D.

By HENRY S. NOBLE, M. D.,
Middletown, Conn.

Dr. James Olmstead, superintendent of the Connecticut Hospital for the Insane, died at Hotel Grenoble, New York City, December 4th, 1897, after an illness of about two months, resulting from overwork, exhaustion of vital forces and mal-assimilation of food. By his death the State was deprived of a public officer, and no one, during the entire period of his service, ever dared to hint that he was otherwise than honest, devoted and faithful. His constant endeavor was to administer the interests confided to his charge intelligently, faithfully and economically. He felt that he belonged wholly to the State which had called him to serve its interests in the administration of a great charity, and he allowed no private interest to interfere with his high ideal of duty. The institution of which he was the honored head has sustained a serious, and in some respects, an irreparable loss. Who but those daily associated with him can know fully what a conspicuous illustration of fidelity he was to the large trusts committed to him? Who but his co-workers can know of the keen sense of responsibility he felt for the care of the unfortunate victims of mental disease who were intrusted to his charge in ever-increasing numbers? No time, no pains, no strength were spared if in any least manner he might minister to their comfort, happiness and restoration. We know of the sleepless nights he spent in devising means to care for the increasing multitude of unfortunates for whom adequate accommodations were wanting. His days and his nights were freely devoted to the problems which confronted him, and his only thoughts were how he might honorably restore his charges to health, home and society. As the

cccc

institution has expanded until it is now one of the largest in the country, the details of administration have multiplied; yet he gave his personal attention to all the minor operations which were constantly going on. He felt that he himself was personally responsible for the success of everything attempted. Not because of his distrust of the abilities of others in comparison with his own, for he was one of the most modest men I ever knew, but because he loved the mission to which his rare native gifts and acquirements were so unselfishly devoted. He could never be prevailed upon to take the rest he so much needed, because he claimed that he was happier in his work. He was not so constituted that he was able to shirk the minutest detail. Nor did he thus devote himself body and soul to his appointed work through any hope of public recognition or self-aggrandizement, but solely from a sense of duty. He gave not only his time and money for the benefit of his patients, but gave himself, his life. Many are the instances where he has relieved the necessities of the needy from his private purse, and no one, even the recipients of his bounty, could discover the source of the benefactions, except in some accidental way. He never gave alms publicly for the sake of applause. Always quiet and unostentatious, modest almost to shyness, he avoided public notice whenever it was possible. He hated shams of all kinds, and deception and equivocation were his special abhorrence. He was a man of scholarly tastes and habit, and every moment that could be spared from the exactions of administrative work found him book in hand acquiring such information as he felt would the better equip him for his life-work, and render him more useful as a public servant. His controlling idea under all circumstances seemed to be how he might better subserve the interests of suffering humanity.

Dr. Olmstead was born in New Haven, and was the only son of a well-known druggist of that city. He was educated at Yale University, graduating third in the class of 1872. Upon receiving his academic degree he pursued the study of medicine in the Yale University Medical School, receiving the degree of M. D. from his Alma Mater. He served at the New Haven Hospital, after which he began general practice in the city of his birth. In 1876 he was appointed assistant physician of the Connecticut Hospital for the Insane, and continued as such

until the death of Dr. Shew in 1886, when he was called by the board of trustees to the superintendency of the institution, which he served so long and faithfully.

In 1882 he married Miss Emma Parmeton, daughter of the late John Parmeton of Derry, New Hampshire, who, with one daughter, still survives him, and was at his bedside when he passed away. For five or six years past he has every summer been prostrated, for a period varying from two to five weeks, by symptoms similar to those which characterized the beginning of his final illness, but from which, after a period of rest and treatment, he had heretofore recovered. In the illness which finally terminated in his death his vital forces were apparently too much exhausted for him to rally. A little over two weeks prior to his death he was persuaded to go to New York for much needed rest and treatment, but the change came too late, and despite the most skillful treatment and advice which the city afforded, he sank rapidly and died December 4th. His burial took place at the Grove street cemetery in New Haven, December 7th, in the presence of his family, several members of the board of trustees of the hospital, prominent State officials, friends and representatives of the institution with whom he had been associated.

**" We live in deeds, not years; in thought, not breathe;
In feelings, not in figures on a dial;
We should count time by heart-throbs. He most lives
Who thinks most, feels the noblest, acts the best."**

H. A. BUTTOLPH, M. D.

From The Short-Hills, New Jersey, Item, May 26, 1898.

Dr. H. A. Buttolph, of Short-Hills, died Saturday morning. The immediate cause of death was heart trouble. The Doctor was eighty-three years of age. He had lived in Short-Hills for the last thirteen years, moving here from Morris Plains, where he had been superintendent of the State Asylum. The news of the Doctor's demise was received with deep sorrow by our residents, and the medical fraternity of the State realizes the loss of one of their most advanced thinkers. Dr. Buttolph was of such a quiet, unassuming demeanor, that persons not intimate with him would little suspect the eminent degree of usefulness he had attained in life; nor would they realize from his modest conversations the great influence he wielded in scientific affairs even down to recent date. He was a quiet Christian gentleman, wise in his remarks, conservative, circumspect, and his opinions were sought for and respected by many persons. His life was spent in devising, and supervising, while others wrought under his directions. He was a scientist and philosopher and a specialist in mental phenomena. He believed in the science of phrenology, but, perhaps, not as radically as the Fowlers. Dr. Buttolph, in politics, was a Republican and was pronounced in his approval of the present administration, and was well pleased with President McKinley's stand in the American-Spanish trouble.

He was born April 6th, 1815, in the township of North East, Dutchess county, New York. He was the son of Warren Buttolph, of German descent, and Mary (McAllister) Buttolph, of Irish lineage. He was educated at a school in Dutchess county, and at Stockbridge, Massachusetts Academy, studying medicine

ccclv

at the Berkshire (Massachusetts) Medical College, from which he graduated in 1836. He began the practice of medicine in his native county, but soon removed to Sharon, Litchfield county, Connecticut, where he resided five years, at the end of which period he went to New York City, and took a course of medical lectures at the University, in which Dr. Valentine Mott was then a leading professor. Having become interested in mental science as bearing on the treatment of the insane, he visited the principal insane asylums in New England, and on his return was appointed assistant to Dr. Brigham, in charge of the Utica Asylum, lately opened, holding the position some five years. In 1847 he was appointed superintendent of the New Jersey State Lunatic Asylum, at Trenton, visiting, however, before entering upon the duties of the office, the chief asylums in Great Britain, France and Germany, not less than thirty institutions in all. After filling the office uninterruptedly for nearly twenty-nine years, he relinquished it in April, 1876, to accept the superintendency of the State Asylum for the Insane at Morris Plains, to which he had been elected in June of the previous year, and to the design and erection of the edifice for which he efficiently contributed, both as a member of the legislative commission to select the site and prepare the plans, and as superintendent-elect, planning many of the features that render it one of the most perfect edifices of the kind, and putting at the command of the commissioners charged with its erection, his experience and practical skill. Horace A. Buttolph's name became historic in the great work accomplished by him in the erection of what at the time and, perhaps, at present is, the most magnificent edifice in the world designed for the care of the insane. The site for the colossal structure was discovered and recommended to the State authorities by Dr. Buttolph, because of its healthfulness, altitude and levelness. At the close of the year 1884 he resigned his position as superintendent of the Morris Plains institution, removed to Short-Hills, where he quietly resided for thirteen years, writing several medical works and contributing articles to magazines, etc.

In 1872 he received from Princeton College, the degree of doctor of laws. He was married in 1838 to Catharine King, daughter of George King, of Sharon, Connecticut, and his first

wife dying in 1851 he married in 1854 Mrs. Maria R. Gardner, daughter of Dr. John Syng Dorsey, professor of Anatomy in the University of Pennsylvania.

The funeral services were held at his late residence in Short-Hills, Tuesday morning at nine o'clock, and were conducted by the Rev. N. Barrows, D. D., rector of Christ Church, Short-Hills.

Interment was made in the Trenton cemetery.

GEORGE ALLEN, M. D.

By SELDEN H. TALCOTT, M. D.,
Middletown, N. Y.

"The good die first,
But they whose hearts are like the summer dust
Burn to the socket."

At the annual meeting of this Association, it becomes the duty of surviving members to pay homage to those who have cast aside the burden of mortality, and have risen to the invisible realms of a higher psychology.

Dr. George Allen, one of our young but honored members, died at Gowanda, New York, on the fourteenth of November, 1897. He was forty-four years of age when he passed away. He lived less than two-thirds of the scriptural allotment of human life, but he accomplished in that brief time an enviable record as a man, a citizen, a scholar, a physician and a psychologist. Honesty and sincerity of purpose, and a serene contempt for hypocritical shams, were his leading personal characteristics. Dr. Allen was quiet to the degree of reticence. He was one of the few men in this world who do not talk enough. Most of us talk too much. He refrained from speaking after the glib and easy fashion of common social intercourse, but when he did speak, he gave utterance to thoughts which were terse and interesting, and sometimes brilliant and sparkling with a subtle humor.

The subject of this sketch was born in Poultney, Vermont, and educated in the classical halls of Rochester University, and in the Hahnemann Medical College, at Philadelphia, Pennsylvania. The Hon. J. Sloat Fasset (formerly State senator and a candidate for the governorship) was a classmate of Dr. Allen's at Rochester; and these two young men became warm, stead-

cccccii

fast and mutually admiring friends. In scholarship Dr. Allen stood among the first in his classes, both at the University and at the Medical College. After laying the foundation for a good life-work in the colleges from which he graduated, Dr. Allen became an interne at the Ward's Island Homeopathic Hospital in New York City, an institution designed for the care of all classes of disease as found among the poor of the city. In that hospital were two wards devoted to the care of the chronic insane. These came from the City Asylum, and were received in order to relieve the overcrowded condition of that institution. Dr. Allen became especially interested in the care of these mental invalids, and spent much time in studying and investigating the various conditions of mental aberration as found among the patients under his observation at that time and place. Subsequently, he founded a co-partnership with Dr. E. A. Munger of Waterville, New York. In that village he engaged and continued in the general practice of medicine for more than eleven years. During that time he was married to Miss Clare Tower, only daughter of Mr. and Mrs. H. W. Tower. On the first of May, 1890, Dr. Allen was nominated by the superintendent of the Middletown State Homeopathic Hospital at Middletown, New York, for the position of first assistant physician at that institution. His nomination was subsequently confirmed by the board of managers, and the position thus tendered was accepted. For seven years Dr. Allen wrought very acceptably among the insane committed to the Middletown State Homeopathic Hospital. This service occurred during the period of transition from county to State care for the insane. Throughout this change, the Doctor's position was well-grounded, and his opinions, concerning the nature and character of the proposed changes, were well-known. He took the position that there should be the greatest possible liberty in the exercise of choice in medical matters. At one time it seemed as if the constrictions of the law would impair this freedom of choice and action; but after the usual struggle for that which is right, this freedom of medical choice was established by law throughout the State, and Dr. Allen contributed his share of argument, entreaty and influence for the attainment of the desired end. Dr. Allen's dissertation upon "The Situation at Middletown" (which was a plea for the medical rights of all

citizens) was a masterly and convincing argument in behalf of the cause which he so warmly espoused. The struggle for religious freedom was one which occasioned the spilling of much valuable blood; the establishment of human freedom in its popular acceptance was also accompanied by the sacrifice of many patriotic lives. The right to exercise freedom of choice in medical matters was accompanied by a bitter and rancorous exhibition of prejudice, and even hatred. But in the end the triumph was brilliant and bloodless, but not achieved without strenuous and persistent effort.

Dr. Allen wrote careful, interesting and exhaustive essays upon "Circular Insanity," "Paranoia," "Some Statistical Facts Concerning Insanity" and "Phthisis Among the Insane." He also contributed a number of other brief but thoughtful articles to the various medical journals throughout the country.

In May, 1897, Dr. Allen assumed the position of superintendent at the Collins State Homeopathic Hospital, at Collins, New York; but after a brief service he laid down the tasks and responsibilities of life, and accepted with patient fortitude and resignation the last decree of Nature. With a larger measure of physical strength, it would seem as if this valuable life might have been continued through many years of usefulness, but we are not permitted always to understand the mysterious dispensations of Providence.

During his short life, Dr. Allen demonstrated the power and efficacy of a noble manhood. He set a bright and shining example of right living for the emulation of those who still live, or those who may come after him. No life, however short, is lived in vain if its possessor, while living, gave expression, by thought or deed, to that which tends to the uplifting of humanity, and to the inspiration and encouragement of those who come within the range of such an influence.

R. H. MOFFITT, M. D.

By HENRY A. GILMAN, M. D.,
Mt. Pleasant, Iowa.

Dr. R. H. Moffitt was born in Canada. He removed with his family to North Dakota, and taught school for several years, then went to Chicago where he commenced the study of medicine at the Northwestern University Medical College, and graduated from that institution in May, 1894. He was appointed assistant physician at the Iowa Hospital for the Insane at Mt. Pleasant, Iowa, in November of the same year, and performed his duties in that position in a most faithful and conscientious manner up to the time he was stricken with disease. Even then, he was unwilling to give up the work which he had commenced.

Dr. Moffitt was a thoroughly conscientious, Christian gentleman, and his whole life was based upon this Christian integrity, and he was fully consecrated to his work among the unfortunate. I do not believe that he had an enemy, and his loss was very deeply felt by his associates, and the unfortunate patients whom he had so tenderly and carefully watched over and cared for. When disease advanced so that he was compelled to give up his position, permanently, he visited the south, in Florida and at Asheville, North Carolina, hoping to stay the progress of the disease which had fastened itself upon him, but, his work was ended, and he returned home with his wife to Chicago, and died in June, 1897.

HUGH F. McNARY, M. D.

From Journal American Medical Association.

Hugh Flournoy McNary, A. B., M. D., (*vide Journal*, p. 1045), born at Princeton, Kentucky, January 15th, 1837; son of Dr. Thomas Logan and Maria Louisa Flournoy McNary. He graduated from Cumberland College, Princeton, in 1857. He studied medicine in his father's office, and attended a course of lectures at the medical department of the University of Louisville, 1860-61. Proceeding to Harvard University, he graduated in the medical department of that institution in 1863. He entered the United States army volunteer service as assistant surgeon at Camp Nelson, Kentucky. He served subsequently at the General Hospital at Jeffersonville, Indiana. He and Dr. Middleton Goldsmith accompanied the expedition of General Banks in the Red River campaign. He left the service of the United States army on August 31st, 1865, and settled in Louisville, for the practice of his profession. In 1867 the Governor of Kentucky appointed Dr. McNary physician to the Western Kentucky Lunatic Asylum at Hopkinsville. Tiring of this service, he resigned in 1869, and returned to Princeton, the home of his youth, where he was elected city and county health officer. He had a large practice, and was devoted to society work, rarely missing a meeting of his local or State society; and frequently attending the American Medical Association as a delegate from Kentucky. In the quiet pursuit of his practice at Princeton, he ceaselessly pursued the study of his profession. In 1895, when Wm. O. Bradley was elected Governor of Kentucky, he appointed Dr. McNary superintendent and physician in charge of the Central Kentucky Asylum for the Insane. Dr. McNary entered upon the duties of this office with a full sense

of his responsibility. He looked into every detail of the management of the institution; inaugurated new methods of general management; classified and arranged each subordinate department, and suggested vast and important enlargements and improvements in the buildings of the institution, which were rapidly advancing to completion, when a fatal affection of the heart seized him, and on May 12th, 1897, he breathed his last in the home of his brother-in-law, Judge Darby, of Louisville. No man in the medical profession of Kentucky was more widely and favorably known. He was a most genial companion, fond of good fellowship, and indulged in no dissipations. Those who knew him throughout his whole professional life, miss him sadly. He was a scholar gifted with superior powers of expression, an easy and fluent writer, yet he contributed but little to the literature of medicine. In the meetings of our local and State medical societies he always contributed something of interest, and was a debater of superior ability. He was a man of superb and magnetic presence, more than six feet tall, with a beaming countenance and sparkling eye, which always attracted attention in any company. He was as modest as a girl, generous and charitable; a veritable philanthropist whose noble deeds of charity will be sadly missed by large numbers of the poor and afflicted.

FROM A PRESS ITEM.

"Now that mother earth has folded her tired child to her bosom and the flowers given by love are still fresh upon his grave, we feel all the more deeply how much we have lost by the death of Dr. Hugh McNary. Few, indeed, are the men of whom all speak well, and he was one of the few. The mere mention of his name never failed to call forth some words of praise, and it would be hardly possible to find a more lovable and perfect nature. In his profession he was the true disciple of the 'Great Physician,' proud of his calling, faithful, gentle and tender, innocent of envy and loyal to his post of duty. No matter how good our intentions when we start out in our profession, human nature is but weak, and only too soon the majority succumb to the blandishments of the world. Praise inflates and blame hardens us. We lose those pure and beautiful ideals we once cherished so fondly, we grow cynical as one by

one our ideals are shattered; the desire to make others nobler and better by our example becomes a childish dream, and we finally sink to the level of those whom we once despised as selfish and worldly.

"But Dr. McNary was not one of these. He lived with his hands clean and his soul stainless. He saw his fellow-beings in the same mirror in which his own beautiful character was reflected, and, like the good Samaritan, he went through life raising the fallen and afflicted and binding up their wounds. Amid all the discords and dissensions brought about by political changes, he was ever the perfect gentleman, and his brief but brilliant official career seems like a white page in the history of Kentucky. He was a shining example in every situation in life, faithful to his State, loyal to his friends, and the idol of those who were most near and dear to him.

"It is just such men as he who leave the world the poorer for their loss, but the richer by their example, and in whose presence the cynical pessimist blushes to assert that human nature is a vain and paltry thing.

"The flowers that bloom above him are not more lovely than the many good deeds that adorned his pathway through life; but, while the blossoms placed by love's hands will fade and disappear, his kindly acts will shine imperishable in memory. They were sown in the garden of the heart, where neither time nor blight can dim their loveliness.

"And so with the gentle spring this humble follower of the Great Physician has passed from us—he has laid down the burden of life and been rewarded with the blessed words, 'Well done, thou good and faithful servant!'"

JULIA K. CARY, M. D.

By CHAS. W. PAGE, M. D.

Dr. Julia K. Cary, who died at the Danvers Lunatic Hospital, December 18th, 1897, was born in Massachusetts. Her early days were spent in Newton, where she was educated. At an early age she developed love of and talent for art, and commenced modelling in clay. During the late civil war she became much interested in nursing, spending considerable time in an army hospital at St. Louis.

This experience led her to study medicine. She obtained her diploma from the Woman's College of the New York Infirmary. After graduating she remained several years in New York, engaged in hospital and private practice. Without solicitation on her part, she was appointed to a position on the medical staff at the Danvers Lunatic Hospital, June 19th, 1877. She was the first woman physician to receive such an appointment in Massachusetts. Subsequent to her appointment, a law was enacted in Massachusetts, obliging all the State Insane Hospitals to have a woman physician on the medical staff.

Dr. Cary had the poetic temperament, a mind highly cultured by wide reading, and was gifted with rare conversational powers. She "carried into her work not only professional ability, but sympathy, insight, and a rare and gracious personality that helped to make her work what it was among the sick and suffering."

Dr. Cary suffered from organic heart disease for several years before her death. Although she understood the import of her disease, she ignored, even with intimate friends, the subject of her personal health and comfort, and maintained to the last a triumphant serenity and peace of mind.

INDEX.

Address of Dr. Hughes, 48.
 Address of Dr. Starkloff, 47.
 Address of Mayor Ziegenheim, 47.
 Address of President, 54, 71.
 After-Care of the Insane, 64.
 Allen, Geo., 66, 407.
 Allison, H. E., 57, 59, 61, 197, 222.
 Amendment to Constitution, 61.
 American Journal of Insanity, 60, 64.
 Annual Address, 61, 89.
 A Study of the Natural History of the Clinical Manifestations and Pathological Changes in Disease of the Lungs Among the Insane, 147.
 Asylum Versus Hospital, 239.
 Auditors' Report, 61, 64.

Babcock, J. W., 57, 60, 66.
 Bancroft, C. P., 55, 59, 61, 65, 179, 183, 186, 231, 235.
 Bannister, Henry M., 55, 65, 66, 186, 236.
 Beauchamp, J. A., 66, 394.
 Better Care for the Chronic Insane, 274.
 Blumer, G. Alder, 61, 64, 67.
 Brower, D. R., 55, 143.
 Brush, E. N., 55, 56, 57, 61, 64, 66, 142, 183, 231.
 Bucke, R. M., 47, 49, 54, 68, 71, 184, 312, 313.
 Burgess, T. J. W., 55, 67, 68.
 Burr, C. B., 50, 55, 56, 57, 60, 61, 65, 66, 67, 69, 181, 220, 295, 297.
 Buttolph, H. A., 404.
 By-Laws, 44.

California and the Insane, 341.
 Cary, Julia K., 414.
 Chapin, J. B., 59.
 Christian, E. A., 67.
 Chronic Insane, 274.
 Clarke, C. K., 59, 64.
 Committee of Arrangements for Meeting 1899, 68.
 Committee on After-Care of the Insane, Report, 64.

Committee on Necrology, 56.
 Committee on Nominations, 59.
 Constitution, 39.
 Constitution, Amendment to, 61.
 Council, Report, 56, 63.
 County and State Care, 262.
 Cowles, Edward, 64.

Dewey, R., 54, 62, 64, 65, 181, 223, 237.
 Disease of Lungs Among the Insane, 147.
 Does the Loco-Weed Produce Insanity, 167.
 Dold, W. E., 67, 357.
 Dues, 56.

Eastman, B. D., 61, 65, 66, 221, 262, 311.
 Edwards, W. M., 64, 65, 66, 67, 184, 254, 311, 340.
 Election of Members, 55, 63, 64, 65.
 Eskridge, J. T., 55, 61, 63, 67, 89, 180, 210.
 Eyman, H. C., 67.

Financial Statement, 69.

Gardner, A. M., 66, 307, 341.
 General Paresis, 351.
 Geographical Distribution Members and Institutions, 23.
 Gilman, H. A., 60, 65, 66, 274, 305, 410.
 Gordon, W. A., 66, 297, 309.
 Gundry, R. F., 67.

Harrington, A. H., 61, 66, 337.
 Hill, C. G., 55, 60, 184, 181, 184.
 Hill, G. H., 55, 61, 66, 180, 209, 324.
 Hoch, Aug., 67, 384.
 Honorary Members, 38.
 Honorary Members Elected, 55.
 Hospital Buildings, 254.
 Hospital Library, 136.
 Hospital Records, 315.
 Hoyt, F. C., 65, 67, 288.

- Hughes, C. H., 48, 54, 55, 63, 66, 67, 110, 132, 135, 338.
 Hurd, A. W., 66, 336.
 Hurd, H. M., 54, 55, 59, 60, 61, 65, 68, 125, 162, 234.
 Hutchings, R. H., 66, 327.
- Incipient Melancholia: Its Diagnosis, Prognosis and Treatment, 372.
 Insanity and Homicide, 197.
 Insanity Defined on the Basis of Disease, 111.
 Institutions for the Insane, 23.
 Improvement in the Medical Service of Prisons, 57.
 Ives, H. G., 67.
- Jones, Wm. P., 66, 394.
 Journal of Insanity, 59.
 Journal of the American Medical Association, 411.
 Judicious Training of Neurotic Children, 143.
- Krohn, W. O., 66, 339.
- Lane, E. B., 67.
 Lesson Taught by a Few Hard Cases, 357.
 List of Members, 9.
 Loco-Weed, 167.
 Lyman, W. B., 55, 164, 280, 313.
 Lyon, S. B., 63.
- Mabon, Wm., 55, 66, 163, 315, 326.
 Macdonald, A. E., 63, 68.
 McNary, H. F., 63, 411.
 Mead, L. C., 60.
 Medical Service of Prisons, Resolutions Concerning, 57, 59.
 Meeting in New York 1899, Committee, 63.
 Melancholia, 372.
 Members and Institutions, 23.
 Members and Visitors Present, 50.
 Members Elected, 55, 63, 64, 65.
 Members, Honorary, 33.
 Members, List of, 9.
 Memorial Notices, 394.
 Missouri Botanical Garden, 67.
 Moffitt, R. H., 66, 410.
 Murphy, P. L., 61, 64.
 Mutual Relations of Alienist and Neurologist, 59.
- Necrology, Committee on, 56.
 Nerve-Cell Changes in Somatic Diseases, 334.
 Noble, H. S., 66, 401.
 Nominating Committee, 54, 59.
 Note, 45.
- Occupation in the Treatment of the Insane, 288.
 Officers Elected, 60.
 Olmstead, James, 66, 401.
- Page, C. W., 60, 414.
 Peterson, Fred'k, 63.
 Physiological Chemistry, 327.
 Pilgrim, C. W., 55, 167.
 Practical Methods in Physiological Chemistry, 327.
 Presentation of Testimonial to Dr. Dewey, 62.
 Presidential Address, 54, 71.
 Prisons, Improvement in Medical Service of, 57.
 Proceedings of Fifty-fourth Annual Meeting, 47.
 Punton, J., 65, 67, 236, 372.
- Regrets, 50.
 Report of Auditors, 61, 64.
 Report of Committee on Training Schools, 64.
 Report of Council, 56, 63.
 Report on Medical Service of Prisons and Resolutions Concerning, 57, 59.
 Resolutions of Thanks, 67.
 Response of President Bucke, 49.
 Richardson, A. B., 67.
 Robinson, J. F., 61, 219, 221.
 Rogers, J. G., 62.
 Runge, E. C., 54, 55, 66, 67, 115, 131, 135, 301.
 Russell, Jas., 55, 61, 65, 66, 129, 215, 236, 239, 310.
- Sachs, B., 63.
 Scientific Border - Line Between Sanity and Insanity, 115.
 Some Forms of Syphilitic Insanity Resembling General Paresis, 351.
 Some New Hospital Buildings, 254.
 Some Remarks on Insanity Following Surgical Operations, with Report of Forty-six Cases, 233.
 Southern Hotel, 47, 67.
 Starkloff, Dr. C. M., 47.

State Care Versus County Care for the Insane, 262.

Stathers, W. E., 65.

Stone, B. W., 55, 174, 180, 184.

Subconscious Homicide and Suicide: Their Physiological Psychology, 186.

Surgery Among the Insane in Canada, 71.

Surgical Operations and Insanity, 71, 228.

Syphilitic Insanity, 351.

Talcott, S. H., 66, 407.

The Hospital Library, 136.

The Judicious Training of Neurotic Children an Aid to the Prevention of Insanity, 143.

The Lesson Taught by a Few Hard Cases, 357.

The Mutual Relations of the Alienist and Neurologist in the Study of Psychiatry and Neurology, 89.

The Scientific Border-Line Between Sanity and Insanity, 115.

The Wisconsin County Care System, 280.

Tobey, H. A., 60.

Tomlinson, H. A., 55, 61, 65, 66, 67, 127, 131, 147, 165, 214, 234, 303, 313.

Training Schools, 64.

Thyroid in Insanity, 174.

Value of Hospital Records, 315.

Visitors and Members Present, 50

Wade, J. P., 60.

Watson, Florence Hull, 65.

Welcoming Addresses, 47, 48.

Wilbur, C. T., 54.

Wisconsin County Care System, 280.

Wise, P. M., 63.

Woodson, C. R., 47, 61, 63, 65, 66, 67, 237, 293, 313, 351.

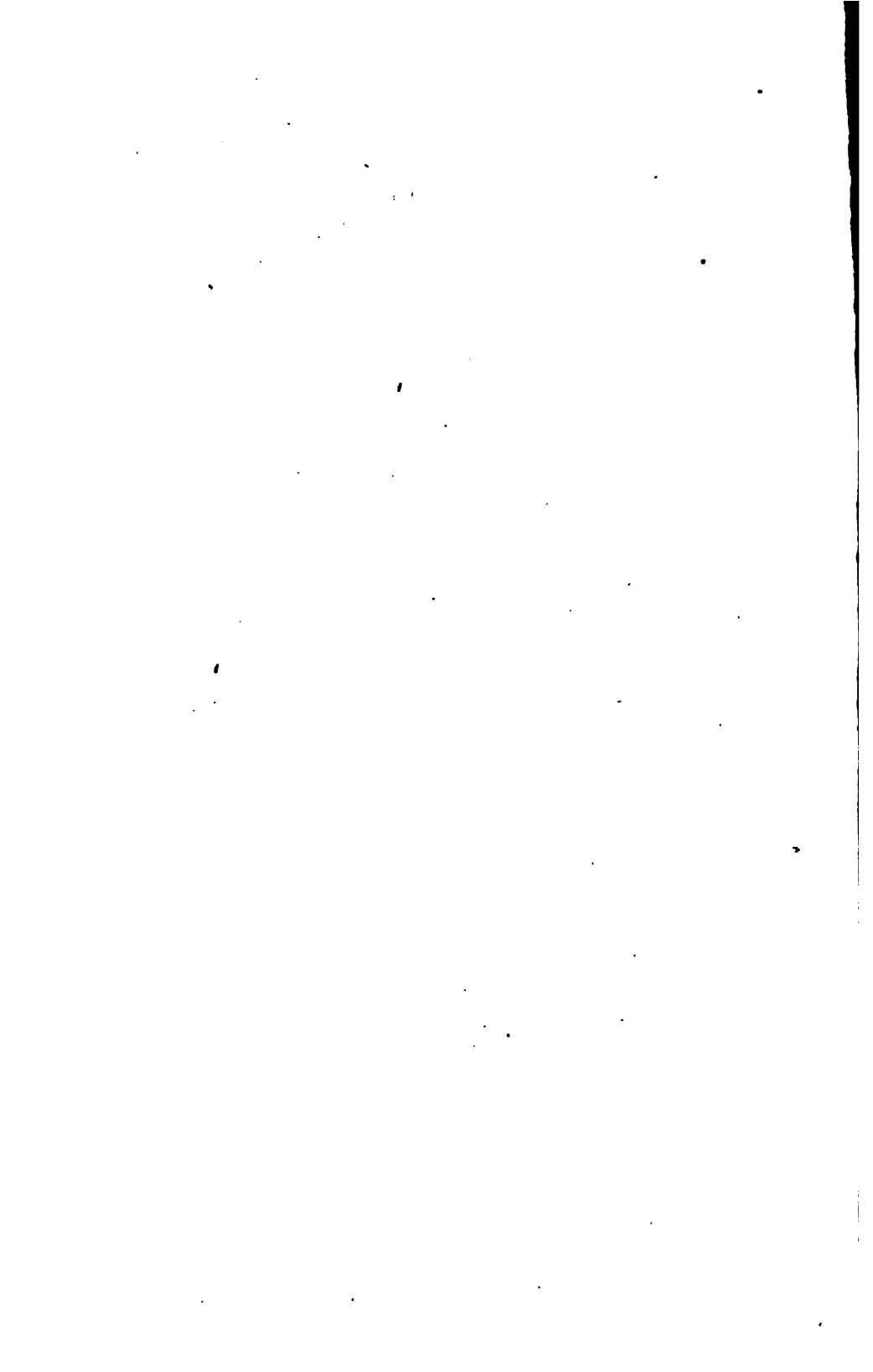
Woodward, C. M., 67.

Ziegenhein, Henry, 47.

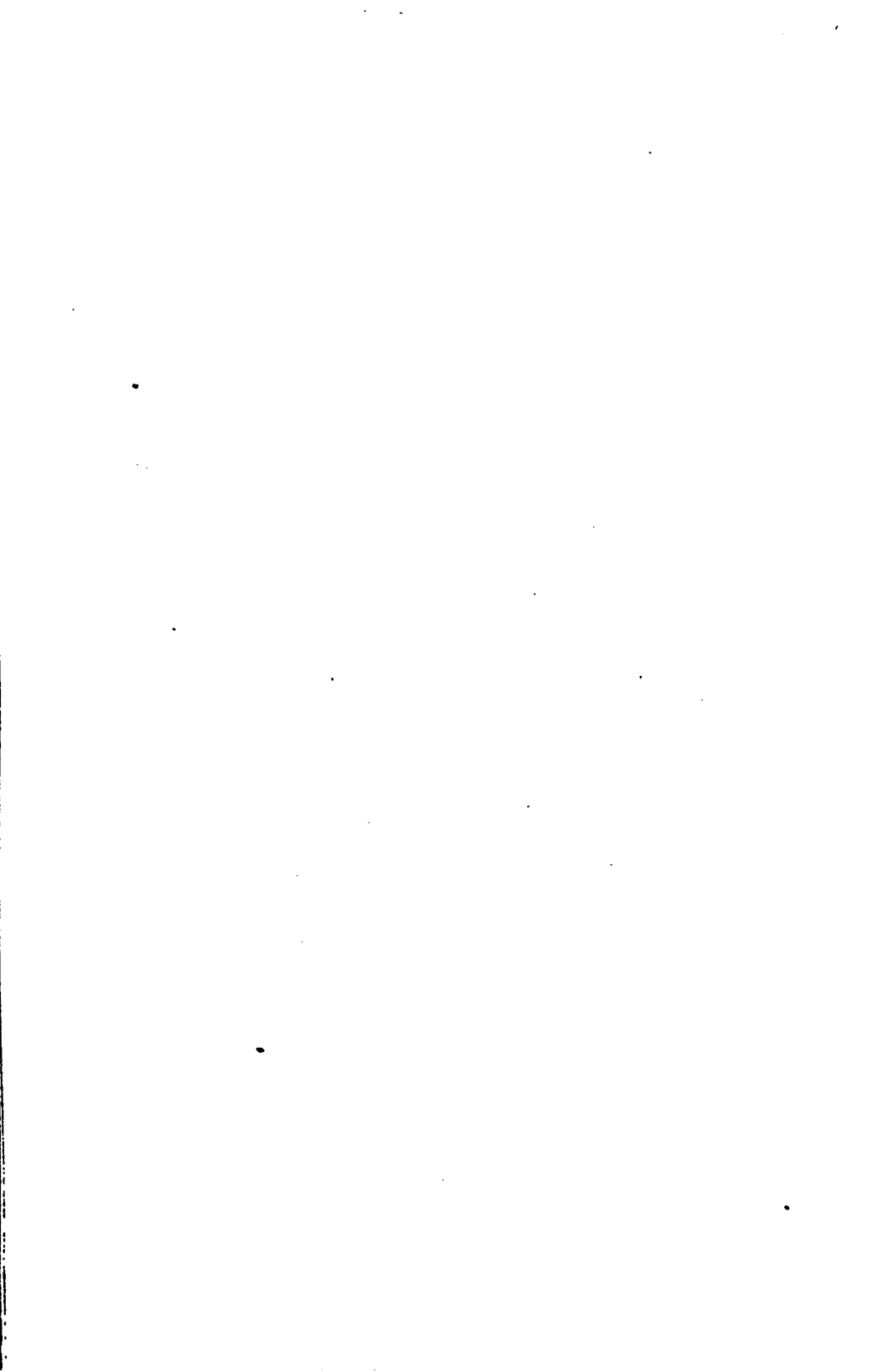
x















41c117